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AUTHOR Ellis, Mary L.
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ABSTRACT

The report reviews the progress and problems of vocational education in realizing the Congressional expectations set forth in the Vocational Education Amendments of 1968. Discussion and analysis focus on the 1971-74 period. The study used analyses of Project Baseline's Common Data Base; many of the results are contained in the text, and information on others is appended. Evidence of a number of achievements, as well as evidence of problems, is presented. Intended as more than a summary of progress and problems, the document describes social, economic, and political conditions affecting vocational education's evolution, in an attempt to define the role of vocational education in a broad social context and to identify the major variables which promise to influence future directions of the program. Research on the relation between education and work revealed radical changes in the value and function of education, with vocational education shown by the study to be in the forefront of the change. In the light of research, the report identifies 20 major issues of importance to the continued development of vocational education and makes specific recommendations for responsive congressional policies. (Author/AJ)

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A REPORT TO THE NATION ON VOCATIONAL EDUCATION

Prepared for
Project Baseline
Northern Arizona University

by

Dr. Mary L. Ellis, President
Ellis Associates, Inc.
P. O. Box 466
College Park, Maryland 20740

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Northern Arizona University
Flagstaff, Arizona 86001

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The Project Baseline Staff

6502 N. 35th Ave.

Phoenix, AZ 85017

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HIGHLIGHTS

This report reviews the progress and problems of vocational education in realizing the Congressional expectations set forth in the Vocational Education Amendments of 1968. Discussion and analysis focus on the 1971-1974 period. While lack of qualitative data nationwide is a serious problem affecting this, or any, analysis of vocational education, there is evidence of a number of achievements.

- Enrollments in 1974 exceeded 13.5 million, an increase of 28.87 percent over 1971.

- Increased federal expenditures in vocational education had the effect of stimulating large state and local investments. In 1974, 84 percent of the funds for vocational education were from state and local sources.

- Special interest in the expansion of postsecondary vocational education resulted in an enrollment increase of 42.6 percent between 1971 and 1974. The need for postsecondary and adult programs should continue to grow in our technological society.

- The numbers of vocational education students completing programs and obtaining jobs have steadily increased. 1974 completions exceeded 1971 completions by more than 41 percent and 1974 placements exceeded 1971 placements by 48.8 percent.

- Special attention to disadvantaged students resulted in disadvantaged enrollment growth which exceeded (statistical) expectations. Even so, both disadvantaged and handicapped enrollments, as percentages of total vocational education enrollments, decreased during 1971-1974.

- Vocational education was expected to broaden its scope by integrating practical and theoretical aspects of education and by stressing career exploration and development. The use of vocational education funds for the development of career education and the support given by vocational educators to career education for all students in our schools has contributed to meeting these objectives.

- Percentage increases in vocational education enrollments have far exceeded percentage increases in college enrollments in recent years. Increased support for vocational education may be contributing to a better balance between vocational and academic education.

- The partnership between education and the business and industrial community was strengthened through increased support for cooperative and work-study programs. Between 1971 and 1974, expenditures for cooperative education rose from $28 million to more than

$53 million and enrollments rose from approximately 380,000 to over 605,000. Though funding for work-study programs fluctuated from year to year, enrollments increased from approximately 28,600 to over 43,600.

Evidence of problems in realizing the Congressional expectations for vocational education is also present.

- Vocational education's contribution to the goal of full employment has been undermined in recent years by our serious economic problems. And unfortunately, funding for the development of the innovative curricula needed to prepare workers to cope with future employment problems has received a low priority.

- Research and development has also received a low priority, with annual appropriations between 1971 and 1974 falling well below the funding level authorized in the vocational education legislation. Effective and responsive vocational education programs will be difficult to achieve if increased funds are not allocated for research.

- The expectation that vocational education would eliminate the need for federally-sponsored manpower programs was never translated into government policy. With costly duplication of effort, the question of proper mix between vocational education and manpower programs must continually be raised.

- Consolidation of all vocational education statutes in the 1968 legislation was expected to improve coordination and comprehensive long-range planning. Failure of the legislation to mandate or fund planning, coupled with the overlap and duplication of both planning and programming efforts that have been experienced in the states, has limited progress. There is evidence of improvement, however; most states have established management information systems and accountability programs. Yet, the need for standardization of vocational education information and accountability efforts persists.

Both the progress and problems in vocational education during the early 1970's occurred as a result of changing social and economic conditions which have implications for the future program.

- Vocational education must be aware of changes in population growth rate, age distribution and spatial distribution of the population. By the end of the century, growth will have slowed, the average age will be noticeably higher, and more Americans may be living outside urban and suburban areas.

- Although progress has been made, the problems of minorities and the disadvantaged continue to be severe. And the need for a coordinated, improved vocational education and manpower delivery system continues to grow.

- Over the past several years participation of women in the labor force has increased dramatically as more women need and want to work. Vocational education efforts to prepare women for non-traditional, nonstereotyped occupations must be greatly increased.

- Vocational education must be sensitive to changes in the labor market demands and the occupational structure. Employment in all service industry sectors should continue to increase, while employment in goods-producing industries will vary. Through 1985, white-collar employment growth will be more than double that of blue-collar employment, and most jobs should develop as a result of replacement needs rather than growth.

- Recession, unemployment, inflation and the energy crisis have emerged as serious problems in the 1970's. The energy crisis contains implications for changes in future manpower needs and also for vocational education.

- Our recent emergence as a post-industrial society, characterized by a growing technically-skilled work force, should have a profound effect upon vocational education. A shift in emphasis, away from provision of specific applied skills toward provision of more theoretical ones, may be necessary. And the need to prepare people for changing job requirements will intensify.

- Post-industrialism is accompanied by changes in work values, with mobility and job satisfaction increasing in importance. The "youth movement" has contributed to changing values in the early 1970's.

- While the educational level of American workers continues to rise, there are questions about the amount of education needed for many of the jobs in our economy. There is dissatisfaction among "over-educated" workers. Still, employment growth is projected to be greatest in occupations requiring the most education and training. And these may be occupations not traditionally encompassed by vocational education.

- In response to a number of conditions calling for educational reform, career education emerged in the early 1970's, embracing many of the elements of prevocational education long advocated by vocational educators. It has the potential to balance vocational and academic education, and improve both. Cooperative education has also emerged as a timely and effective education-work linkage.

- As concern with the expenditure of public monies increases, vocational educators can expect to be held more closely accountable for the effectiveness and efficiency of their programs. Planning and evaluation will become more critical.

In light of the experience of vocational education during the early 1970's, and the implications of changing social and economic conditions, this report identifies a number of issues of importance to the continued development of vocational education.

- Increasing demands for accountability in vocational education underscore the need for improved data, and a strengthened evaluation effort as well.
- Vocational education research must be recognized as a priority, and administered at the federal level by the same agency responsible for program administration.
- Increased support for curriculum development at the federal level is needed to support the relevance of programs and the quality of instruction in vocational education.
- The need for adult and continuing vocational education programs to upgrade and retrain both employed and unemployed persons continues to grow.
- An appropriate balance of emphasis between secondary and post-secondary programs in vocational education is needed.
- Problems in serving disadvantaged and handicapped students in vocational education programs may be reduced by clarifying service reponsibilities of various agencies concerned with disadvantaged and handicapped persons.
- Vocational education must be more responsive to the needs of students in the inner cities.
- Coordination of vocational education and manpower programs as authorized under the Comprehensive Employment and Training Act must be improved.
- Women enrolled in federally supported vocational education programs should no longer be concentrated in traditional, female-intensive programs.
- The professional development of administrators, supervisors, and teachers in vocational education may be imperiled by cutbacks in funds for teacher education programs.
- Vocational education is hampered by the absence of a national, uniform reporting and accounting system.
- There is a critical need for comprehensive planning for vocational education programs.
- A major problem in planning vocational education programs is the poor quality of manpower projections.
- Problems caused by the increasing complexity of vocational education governance are emerging and require a response.
- The proposal to use a consolidated, rather than a categorical, approach to vocational education funding must be carefully weighed.

- Differentiation of career and vocational education objectives and scope, and clarification of separate funding requirements, will contribute to the success of both efforts.

- There is a need to coordinate activities of the National Advisory Council on Vocational Education and the National Advisory Council on Career Education.

- The concept of separate or combined career and vocational advisory councils at the state level should be examined.

- Inadequacy of counseling services in support of vocational and career education threatens the success of both efforts.

- Long delays in federal appropriations for vocational education impedes state and local planning.

Recommendations for policies responsive to each of these issues are contained in Chapter IV of this report.

I

INTRODUCTION

BACKGROUND OF THE REPORT

This report is an outgrowth of Project Baseline, Northern Arizona University. Since 1971, Project Baseline has been engaged in the collection and analysis of available data on vocational education throughout the United States. In fact, Project Baseline is the first national study attempting to identify the accomplishments of vocational education since the passage of the 1968 Amendments. The analysis and findings of this study are contained in the four Baseline volumes of Learning a Living Across the Nation.

This report, however, provides a single source to which readers may turn for an examination and treatment of the activities, achievements and issues associated with vocational education during the early 1970's.

Specific objectives of this project were the following:

- Identification of Congressional expectations for vocational education under the Vocational Education Amendments of 1968
- Analysis of the extent to which Congressional expectations were met by the vocational education program during the 1971-1974 period
- Review of the social, economic and political climate affecting vocational education during the period 1971-1974
- Identification of the issues and problems of vocational education and current legislative constraints
- Development of recommendations to serve as a framework for vocational education policy

This document is more than a summary of the progress and problems of vocational education during the early 1970's. The description of social, economic and political conditions affecting the evolution of the vocational education program is an attempt to define the role of vocational education in a broad social context and to identify the major variables which promise to influence future direction of the program. There are many ways to define vocational education. For the purposes of this report, however, the program is described and analyzed in terms of the objectives and scope set forth in vocational education under the 1968 Amendments.

Definition of Vocational Education

In Title I, Part A, Section 108, of the 1968 Amendments, vocational education is defined.

> (1) The term "vocational education" means vocational or technical training or retraining which is given in schools or classes (including field or laboratory work and remedial or related academic and technical instruction incident thereto) under public supervision and control or under contract with a State board or local educational agency and is conducted as part of a program designed to prepare individuals for gainful employment as semiskilled or skilled workers or technicians or subprofessionals in recognized occupations and in new and emerging occupations or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations which the Commissioner determines, and specifies by regulation, to be generally considered professional or which requires a baccalaureate or higher degree; and such term includes vocational guidance and counseling (individually or through group instruction) in connection with such training or for the purpose of facilitating occupational choices; instruction related to the occupation or occupations for which the students are in training or instruction necessary for students to benefit from such training; job placement; the training of persons engaged as, or preparing to become, teachers in a vocational education program or preparing such teachers to meet special education needs of handicapped students; teachers, supervisors, or directors of such teachers while in such a training program; travel of students and vocational education personnel while engaged in a training program; and the acquisition, maintenance, and repair of instructional supplies, teaching aids, and equipment, but such term does not include the construction, acquisition, or initial equipment of buildings or the acquisition or rental of land.

HISTORIC OVERVIEW

The above definition has a certain specificity. In practice, the vocational education program has become so broad and diverse in its response to manpower demands and the needs of all age and ethnic groups that it is almost impossible to describe in any definitive way.

Prior to the vocational education legislation of the 1960's, vocational education did have clearly prescribed limits. Vocational education provided occupational training for subprofessional jobs in a few broad occupational categories. Each piece of legislation added new occupational areas to the program, and with the exceptions of the Great Depression and World War II, there were no significant imbalances between supply and demand. Thus, the mission of vocational education seemed clear and uncomplicated. Within

the past 15 years, however, that clarity has been diluted by the complexities of social, economic and political realities.

Since 1917, vocational education has had to operate in an education system that is academic in orientation. That orientation was strengthened in the late 1950's following the launching of Sputnik. Americans were shocked by this achievement and the blame for our lag in the space race was laid on the inadequacies of our public education system. At the time, it appeared that our preeminence as a nation depended on restructuring the system to produce the scientists and engineers needed to respond to the Russian challenge.

Under the leadership of such prominent educators as James Conant and Jerome Bruner, the academic programs in our schools entered a period of vigorous development. Comprehensive high schools were advocated, to provide mathematics (including calculus), modern foreign language, English, science, social studies, physical education, music or art and advanced placement courses. Vocational education was also to be included in the comprehensive schools. Under Title VIII of the National Defense Education Act of 1958, vocational education was charged to train technicians vital to the national defense.

In the main, however, curricula were designed to provide a "structure of knowledge" in the high schools. Instruction, therefore, became abstract and focused on broad concepts, the theory being that factual learning would quickly become outmoded. John Dewey and educational pragmatism fell out of favor. Teachers, counselors and parents urged college-level training. As a result, high school was no longer considered a terminal point of public education and college enrollments increased dramatically.

We came to learn, however, that we had over-reacted to the requirements for professionally trained workers and that we had overproduced professionals for a labor market in which paraprofessional and technical skills were in greater demand. Despite the high number of casualties, the education industry was firmly established. The nation developed a penchant for worshipping titles and degrees and medievalism experienced a brief rebirth. Vocational education, as an extended guild system, was expected to pull up the slack.

The national commitment to attack the problems of urban decay, poverty and inequality brought new dimensions to vocational education. The campaign to arrest these problems and develop an educated and trained work force eventually led to new vocational legislation. The Vocational Education Act of 1963 called for sweeping changes in the program. Among its many charges, the mandates to improve the quality of existing programs and to respond to the needs of youth and adults with socio-economic problems posed a challenge to vocational education which it is still trying to meet.

Vocational education was not the only program mandated to prepare the disadvantaged target group for the labor force. Manpower programs were developed to alleviate high unemployment, underemployment and poverty. Actually, the programs under the Manpower Development and Training Act and the Equal Opportunity Act were created to serve the same segments of the population which vocational education was charged to serve through the

schools. As a result of the social engineering efforts of the 1960's, there are now a host of programs, agencies and groups competing on the same turf. Yet, as Chapter II points out, there is little evidence to suggest that this competition has resulted in quality programs and services or effective marketing and recruiting techniques to serve the poor.

It is now apparent that relatively little was known about the nature of the problems that were being attacked or about the efficacy of the ideology and methods employed in meeting them. Yet, although the expectations of many were unfulfilled at the end of the decade, the fact remains that partly as a result of the programs developed, and partly because of an increase in transfer payments, the number of persons defined as being in poverty in the United States was reduced. Whether or not they are any better off as welfare recipients, job holders and consumers is a moot question. Certainly, the psychological conditioning of the welfare program and the industrial system is as strong as the alienating effects of the poverty cycle.

Growing skepticism about our ability to create the Great Society overshadowed the enthusiasm of many administrators attempting to serve the disadvantaged. And by the early 1970's, concerns about the role and responsibility of vocational education in the national manpower effort intensified. In fact, the changes brought about by the 1963 act and other social legislation have introduced a host of problems which have confused the mission of vocational education.

This report describes the many social, economic and political forces which shaped vocational education in the late 1960's and which remain in effect. Some have taken on new dimensions. We continue to be concerned about unemployment, but a lagging economy rather than inadequate job preparation is considered to be the real problem. We continue to be concerned about underemployment, but as much from the standpoint of an overeducated population as from the standpoint of underutilization of the work force. The employment problems of the disadvantaged and minorities grow and to these have been added the inequities that women experience in the labor market. Our population is growing at a slower rate, but we know we will be affected by uncontrolled world population growth and growing food shortages. We have become painfully aware of the limitations on our resources and the costs associated with conserving them. We now know that we can no longer put our trust in a continuously expanding economy to provide jobs for ourselves and our children.

Concern about the mismatch between what is needed as preparation for life and work and what the education system is capable of providing has intensified in the 1970's and has spawned at least one major approach to educational reform. In a few short years, career education has developed into a significant initiative in school systems across the country. As a result, new problems and new opportunities are emerging for vocational education.

SHOPPING FOR A FUTURE

Like career education, vocational education continues to evolve as a philosophy and as a program. In the final analysis, this flexibility may

prove to be vocational education's greatest asset. Available evidence suggests that vocational education already has developed the scope and basic capability to move in a number of directions in response to social and economic needs. In the report we learn that technology is a major force to be reckoned with and that, given the wherewithal, vocational education can train or retrain skilled technicians at the secondary, postsecondary and adult education levels. We find that service occupations will be in growing demand and that jobs in manufacturing will be declining. We discover that world food shortages may place new demands on vocational agriculture programs. We can expect that social and economic changes will demand major reshuffling of programs and priorities, the rapid development of new occupational offerings and the swift elimination of outdated programs, and the design of more innovative, comprehensive approaches to education and training.

Yet, we also learn that changes in work values and behavior have made jobs less important and less satisfying to thousands of youth and adults. While any number of things can occur tomorrow to spur economic recovery, we can anticipate that underemployment and leisure may become a way of life; that education may assume a more prominent role in society; and that vocational education will be increasingly concerned about turning out a quality product through a new kind of ongoing educational process.

This report does not hold out any long-range promises or support any worn-out myths about economic progress and vocational education's place in it. Nothing is really certain about the future of the program or the fate of a number of occupational areas--except the instinct for self preservation.

How then do we link our present program to the future when there may not be a well-defined market for our services? How will vocational education survive, let alone grow, in a technological, "no-growth" society which places emphasis on intellect and control in the hands of a few? Vocational education may survive as a public utility if it proves itself capable of picking up the slack, only the "slack" may represent the majority of the population. Facing this prospect, vocational education may choose to set its own limits to growth and turn to resolving another set of problems.

Traditionally, vocational education has provided education to members of the working class. It is one of society's ways of guaranteeing a supply of nonprofessional workers and, more recently, of reducing the burden of the poor by lifting them into higher economic strata. Vocational education has helped millions of students get jobs and achieve a decent standard of living. Yet, it has had no appreciable influence on changing the social structure. In trying to meet the expectations of business and industry, vocational education has become a component of the production mode, with hopes of becoming a full partner in industrial growth and progress. Those ambitions have placed vocational education at the mercy of business and industry and have, to an extent, limited the choices and potential of students enrolled in the traditional vocational education program.

As we move beyond the Industrial Revolution, the problems created by industrialization may outweigh its value. It is now believed that services more than goods will improve the quality of life. Vocational education (being a service institution) can be expected to mass-produce workers for service-type jobs. This agile post-industrial conversion will inevitably

reach its limit, however, and so begs the fundamental issue. Do vocational educators look forward to following every swing of the economic pendulum? If not, where do vocational education's true loyalties lie, and what are its fundamental values? If they are "people-centered," then as difficult as it may seem, it is possible to envision a future on a human scale.

It is generally held that greater human freedom will be achieved by automating industry and relinquishing its management to a technocratic elite. A well-regulated stainless steel world is projected as a model by both science fiction writers and social scientists who speculate about the future. In our collective search for order, the adoption of this model may destroy more than our aesthetics.

While promising freedom from labor, machines are also recognized as another form of enslavement. By replacing politicians with a cult of technocrats to make our decisions for us, we become powerless. Automation may continue to eliminate a number of jobs which are unattractive, undesirable and demeaning. Yet, it will not eliminate work, which, when broadly defined, is a basic impulse which cannot be contained. Ideas and styles of work may change, but complete surrender to technology for the sake of its gifts is without moral.

People fear the technology they don't understand. They are not afraid of hammers, for example, but they are suspicious about computers because they don't know how they work or for what purposes they are being used. Our society would be better off if people regarded the computer the way they regard the hammer--as a tool which they have complete access to. If certain technologies are not tools to be used or understood by the majority of the population, then those technologies have only surreptitious justifications. In Tools for Conviviality, Ivan Illich examines this question. (1)

> A convivial society should be designed to allow all its members the most autonomous action by means of tools least controlled by others. People feel joy, as opposed to mere pleasure, to the extent that their activities are creative; while the growth of tools beyond a certain point increases regimentation, dependence, exploitation, and impotence. I use the term "tool" broadly enough to include not only simple hardware . . . [but] productive systems for intangible commodities such as those which produce "education," "health," "knowledge," or "decisions." . . . School curricula or marriage laws are no less purposely shaped social devices than road networks.

Like all other social institutions which are accountable to the public, vocational education must better identify the genuine needs of its clientele and create options which maximize individual choices and meet a wide range of needs, regardless of whether they are directly related to economic demands. Thus, vocational education should develop more flexible and varied occupational training programs in a variety of settings and should undertake more aggressive job development activities for men and women seeking immediate employment. On the other hand, vocational education should strengthen programs which prepare students to cope with daily life in a changing society. In addition, vocational education ought to offer courses

which better prepare youth and adults for productive leisure. For example, the growing demand for skill training in handcrafts suggests that vocational education should review such needs. Conversion to the metric system is another recent development which will affect citizens. Because metrication is particularly relevant to all areas of vocational education, perhaps the greater burden of preparing people for transition to the legalized measurement system should be borne by vocational education. Overall, vocational education ought to define its delivery system as the means of achieving understanding of and access to our culture's tools--drills, lasers or computerized information systems.

REFERENCES

1. Ivan Illich, Tools for Conviviality (New York: Harper and Row, 1973), p. 20.

II

THE VOCATIONAL EDUCATION AMENDMENTS OF 1968: EXPECTATIONS AND ACCOMPLISHMENTS

Vocational education legislation, like most legislative action, is created as a response to prevailing socio-economic conditions. Because federal legislation for vocational education has continued to evolve over a period which now spans almost 60 years, the legislative intent and purposes of the Vocational Education Amendments of 1968 are a part of a long history. For our purposes, however, the 1968 Amendments emerged as the direct result of three major events:

- The Report of the Panel of Consultants on Vocational Education, and the Vocational Education Act of 1963
- Report and Recommendations of the Ad Hoc Advisory Council on Vocational Education
- Congressional hearings, held both in Washington, D.C., and in the field.

These milestones provide the context for assessing the goals and purposes of the Vocational Education Amendments of 1968.

PANEL OF CONSULTANTS ON VOCATIONAL EDUCATION

The Vocational Education Act of 1963 embodied major changes in program emphasis. Focus shifted from agriculture and home economics, dominant since the Smith-Hughes Act of 1917, toward greater scope and flexibility in vocational education programming in keeping with changing labor market demands. In addition, the mission of vocational education was broadened to serve the needs of persons whose special problems prevented them from succeeding in traditional vocational education programs.

The mechanism for initiating this major reform in vocational education legislation was outlined in President Kennedy's message to Congress on American education, February, 1961, wherein he stated:

> The National Vocational Education Acts, first enacted by the Congress in 1917 and subsequently amended, have provided a program of training for industry, agriculture, and other occupational areas. The basic purpose of our vocational education effort is sound and sufficiently broad to provide a basis for meeting future needs. However, the technological changes which have occurred

> in all occupations call for a review and re-evaluation of these acts, with the view toward their modernization.
>
> To that end, I am requesting the Secretary of Health, Education, and Welfare to convene an advisory body drawn from the educational profession, labor, industry, and agriculture, as well as the lay public, together with representatives from the Departments of Agriculture and Labor, to be charged with the responsibility of reviewing and evaluating the current National Vocational Education Acts, and making recommendations for improving and redirecting the programs.

The following October, a 21-member Panel of Consultants assembled to begin a year-long study and to identify needed changes. The Panel's general recommendations were framed in the context of a changing world of work, and included the following "expectations" for vocational education: (1)

- Offer training opportunities for 21 million non-college graduates entering the labor market during the decade of the 1960's
- Provide training or retraining for the millions of workers whose skills and technological knowledge must be updated or whose jobs will disappear as a result of automation or economic change
- Meet the critical need for highly skilled craftsmen and technicians through education during and after high school
- Expand vocational and technical training programs consistent with employment possibilities and national economic needs
- Make vocational education opportunities equally available to all, regardless of race, sex, scholastic aptitude or place of residence.

The Panel identified four groups for whom vocational education services should be provided: young people in high school who are preparing either to enter the labor market or to become homemakers; high school age youth with academic, socio-economic or other handicaps that prevent them from succeeding in the regular secondary vocational education program; youth and adults who are full-time students preparing to enter the labor market, having completed or left high school; and finally, youth and adults employed or at work who need training or retraining to achieve employment stability. A total of $400 million was recommended by the Panel as the federal share for funding this vastly expanded vocational education program. Approximately one year after the Panel reported its recommendations, President Lyndon B. Johnson signed P. L. 88-210, the statute which incorporated most of the Panel's major recommendations.

Much of the rhetoric and many of the recommendations enacted into law in 1968 were built upon the highly significant changes that occurred in federal legislation five years earlier.

AD HOC ADVISORY COUNCIL ON VOCATIONAL EDUCATION

The report and recommendations of the Ad Hoc Advisory Council on Vocational Education, appointed in 1966, are widely recognized for their major impact on the provisions and expectations of the 1968 vocational education legislation. The relationship between the Council's recommendations and the provisions of the legislation which came from the Senate-House conference committee are "too obvious to be accidental. . . Most of the recommendations were endorsed, a few rejected, and others contained in legislative proposals not acted upon, but none were ignored." (2) Committee reports from the House and Senate both took note of the Ad Hoc Council's recommendations, while the House Committee on Education and Labor clearly stated its reliance on the report, adding that it had incorporated most of the recommendations in its version of the 1968 legislation.

The Vocational Education Act of 1963 had provided for the establishment of two advisory councils, one responsible for a continuing review of vocational education and the other designed to be an ad hoc group established for the purpose of reviewing the administration and status of vocational education and recommending improvements. The Ad Hoc Council, composed of representatives from education, business and labor, was appointed approximately three years after enactment of P. L. 88-210.

With staff and technical assistance from the U. S. Office of Education, the Council conducted a comprehensive review of vocational education in the United States and used its findings as measures for evaluating the program. From this base, major recommendations were made to the Secretary of Health, Education, and Welfare for changes in national policy.

The Ad Hoc Council recommended that: (3)

- The federal vocational education acts be combined into one single act to simplify administration at local, state and federal levels. It was believed that Congress would be better able to review the results of the progress (or the lack of it) if all vocational funding were under one legislative authority. Such a consolidation would also assure a clearer understanding of the objectives of vocational education legislation. Finally, it was felt that the states would be able to modernize the administration of vocational education through organization by function and purpose rather than by legislative unit, as had been practiced in the past.

- A Department of Education and Manpower Development be established in the Cabinet to coordinate (and thereby rationalize) federal efforts to reach unemployed, underemployed and disadvantaged youth and adults. The Council believed that centralized administration would prevent proliferation of programs and avoid duplication of efforts.

- Funds be authorized for the U. S. Commissioner of Education to contract or make grants for planning, developing and operating exemplary and innovative programs of occupational preparation. New methods, techniques and services, verified by research and experimental studies, should be incorporated into vocational

education programs. These new research findings should include exploratory programs to provide practical experiences essential to understanding the complexities of a changing world of work; programs to acquaint students with employment opportunities and to teach skills and knowledge in one or more industries or families of occupations; part-time work to help link school and employment; guidance and counseling to assure that all students' interests and capabilities were developed in relation to their career objectives, thus facilitating the transition from school to work by assisting in initial job placement; and improved curricula to stimulate the development of more realistic vocational education programs for youth and adults.

- Funds be authorized to develop and operate new and expanded vocational education programs and services for persons with academic, social, economic or physical handicaps. A critical problem was that the resources of both urban and rural areas were inadequate to meet the many needs of academically, socially and economically disadvantaged youth and adults who were ill-equipped to compete in the labor market. The Council felt that vocational education, in cooperation with other agencies, could provide for a combination of services concerned not only with specific job training, but also with employability of such persons. Services might include counseling, prevocational experiences, motivation, mental, physical and social rehabilitation, remedial education, work skills, technical knowledge, placement and follow-up.

- Funds for work-study and work experience be authorized for students in secondary and postsecondary institutions offering vocational and technical education. These programs would permit students to accomplish career objectives while acquiring work values.

- The Commissioner be authorized to make grants to state boards of vocational education and/or to colleges and universities or local public education agencies, to construct facilities and operate residential vocational schools. The Council believed that these facilities could extend vocational education to all youth, especially those who because of geographical location or socio-economic handicaps were unable to participate in or profit from regular vocational programs.

- Greater emphasis be directed to postsecondary and adult programs, and a minimum expenditure of 25 percent of authorized funds be set aside for this purpose. This support, it was felt, would enhance the capabilities of community and junior colleges to provide skill and technical training for entrance and advancement in the labor force.

- Vocational homemaking education be a separate section of vocational education legislation with specific funding. Designed to distinguish home economics wage-earning programs from those focusing on the quality, enrichment and stability of family life, the establishment of homemaking education would better serve young women preparing for the dual role of housewife and wage earner.

- Federal funds be allocated to states on bases which encourage increased enrollment, attendance and improved performance, thus providing incentives and rewards for those states making the greatest efforts to expand and improve vocational education programs. Factors to be considered would include enrollments, average daily attendance, proportion of per capita income allocated to vocational education and training-related placement.

- The present requirement of matching federal funds by program and by purpose be eliminated, to encourage innovation and the development of programs in new and emerging occupations. Statewide matching would permit states to more readily adapt funding procedures to meet state and local needs.

- Salaries and expenses for federal administration of vocational education be included in the annual appropriations for the Act. The serious lack of long-range planning was recognized and attributed to the fact that the federal staff in vocational education had not increased significantly. Leadership planning and federal technical assistance were also deemed essential for maximum program effectiveness.

- State plans for vocational education be designed to fulfill two major purposes: to serve as a compliance document as well as a five-year projected plan for administering and operating vocational education programs. Such a process would assure that the goals of vocational education at local, state and national levels would be closely related.

- Support be provided for professional and paraprofessional staff recruitment, preparation and upgrading at all levels, including leadership, administration, teacher education and counseling and guidance. It was anticipated that demands for increased staffing would be created by the growing importance of occupational preparation, development of new and emerging occupational fields, the necessity for better linkages between industry and education, the rapidity of change in job requirements and skills, and the necessity for continuous curriculum development and revision. Preparation of personnel ought to include fellowships, leaves, internships and exchange of personnel between industry and education.

- Employers be encouraged to participate in school-work programs. Pilot projects should be funded to determine the feasibility of reimbursing employers for unusual costs of supervision, training and instruction of part-time cooperative students in publicly supported education.

- Three types of research and dissemination efforts be conducted: grants to colleges and universities for paying part of the cost of research and dissemination of research results; grants to conduct evaluations, demonstrations and experimental programs in vocational education; and grants to states to pay part of the cost of state research coordinating units.

- Funds be authorized for the U. S. Office of Education to collect data for use in preparing an annual descriptive and analytical report on vocational education for submission to the President and Congress. Virtually no data on vocational education were being collected that would yield evidence on student characteristics, program results and benefits, future projections, placement and follow-up.

- A periodic statewide review and evaluation be conducted in each state with criteria to be established by the U. S. Office of Education. These evaluations were to be submitted to an Advisory Council on Vocational Education with responsibility for a national evaluation. The Council noted the paucity of hard data and sound value judgments about vocational education.

- The definition of vocational education be broadened to include the terms "prevocational" and "employability" as descriptors of exploratory and work experiences to enable male and female students to assess their interests and abilities in relation to a variety of occupational programs and options.

- Vocational education be defined to include initial job placement and follow-up for persons who have completed a training program, require part-time employment to remain in school or need work experience as an integral part of their educational program. Research findings had indicated that vocational schools accepting responsibility for initial job placement were far more successful than comparable schools that had not accepted this task. The Council recognized that job placement activities provide schools with immediate feedback and thus a basis for regular assessment, curriculum modification and elimination of outdated programs.

The final recommendation of the Ad Hoc Council was a funding recommendation to authorize, for the purposes stated, $1.6 billion for the first year of an enlarged and expanded vocational education program.

CONGRESSIONAL HEARINGS

President Johnson's Legislative Recommendations

Early in 1968, President Johnson sent to the Congress his recommendations for amendments to the Vocational Education Act of 1963. That legislation was introduced in both the House and Senate (H.R. 15066 and S. 3099) and formed the basis for early hearings on vocational education. (4)

The Administration bill, known as the "Partnership for Learning and Earning Act of 1968," authorized new funding for exemplary programs and projects in vocational education. The bill also included a number of administrative changes which had been recommended in the Ad Hoc Advisory Council's report, such as the consolidation of existing statutes authorizing funds for vocational education.

In the initial hearings to consider the Administration's bill, it was apparent that Members of Congress were not willing to settle for a vocational education bill with new authorizations of only $15 million. (5) Instead, the hearings built a record of support for vocational education which eclipsed the President's original recommendations.

Expectations of Educators and Other Publics

It was the Ad Hoc Council's extensive recommendations which provided incentive for the Congressional committees of the House of Representatives and the Senate to begin formal hearings on vocational education. The hearings of the House subcommittee were lengthy and thorough and included trips to the "grass roots" to hear concerned citizens at state and local levels. The Senate subcommittee hearings took the form of a seminar, or a dialogue, under the direction of the Chairman. With the help of witnesses, the Chairman identified the issues in vocational education and then called on "the experts" from the U. S. Office of Education to respond to the issues and the specific recommendations they engendered. Since the Ad Hoc Advisory Council's recommendations were the basis for both the House and Senate hearings, the issues explored by both committees were basically similar.

Vocational educators (as represented by the American Vocational Association) testified that while progress had been made in many areas since the passage of the 1963 act, vocational education had not fulfilled the mandate to provide training opportunities for "all persons of all ages in all communities." Inability to reach this goal was attributed primarily to a lack of resources, and the profession called for a reassessment of priorities in education.

In responding to the major social issues of the mid-1960's, vocational educators expressed a belief that their profession, given the resources, could play a key role in preparing youth and adults for employment in a technological society. In fact, leaders for the profession reaffirmed their commitment to helping every high school student acquire some type of occupational skill. They recognized that to accomplish this goal would mean expanding "traditional" vocational education programs, particularly the "guidance function." They felt that a broader program, including innovative and exemplary projects in career exploration and work experience, should give students an earlier and clearer understanding of the world of work. (6)

Representatives for the superintendents of the large cities testified early in support of the Administration's "Partnership for Learning and Earning Act of 1968," but later returned to endorse H.R. 16450, a much larger bill in terms of funding and programmatic response. (7) They applauded the comprehensive scope of the legislation, particularly its focus on the rural and urban disadvantaged, and endorsed the sound educational structure it contained. They believed the authorizations were adequate and that the bill would provide the necessary impetus for solving problems related to hard core unemployment in the large cities.

Questioned as to what assurances there were that schools would use new vocational funding to improve the quality and raise the image of vocational

education, they cited the development of career ladders as a means of making vocational training more attractive to a larger segment of students.

On the issue of equity in the distribution of vocational education funding vis-a-vis states and the large cities, the superintendents felt that the safeguards in the legislation (i.e., broad participation in the planning process, projection of a five-year plan and public hearings on the state plan) would open the process for a more equitable distribution of funds to the large cities. They believed that a sound and viable vocational education program with ample resources would decrease the need for federally sponsored remedial programs.

In field hearings conducted by the House Committee on Education and Labor (Subcommittee on General Education), educators recommended that the pending legislation include research funding to develop more and better programs for a wider range of population groups. (8)

In considering the failures of the educational system, it was believed by some that vocational education offered a realistic hope for "revolutionizing" all of education. Emphasis on practical instruction was also viewed as a means for improving the self image of students in vocational education, which had long been considered undesirable. The need to articulate high school and postsecondary programs was identified along with a need for the development of innovative instructional methods and techniques to increase the effectiveness of education and training. (9)

Industry representatives cited two major needs. The first was development of responsible attitudes toward work much earlier in the school experience, at least by junior high school. The second was the substantial assistance necessary for the public education system to fulfill present and future labor market demands for skilled craftsmen. (10)

Others contended that "there is more to education than the skill you are going to learn in a trade school, or the knowledge you are going to learn in college. Part of it is social . . . and the social aspect is just as important as learning how to weld or wire a house." (11)

Some educators anticipated that the proposed amendments would help to restore balance in the expenditure of education funds. They pointed out that the largest portion of tax funds for education is used to educate the 20 percent of the population who plan to enter the professions. (12)

Expectations of Congress

In creating legislation, Members of Congress use not only their powers of persuasion, but also their skills of patient and careful negotiation. The final result is a compromise of many varying viewpoints, goals and aspirations. Thus, answers to questions concerning the "expectations" of Congress depend to some degree on who is asking the questions and who is answering them. While it is difficult to identify the many intentions held by Congressional members regarding the 1968 Amendments, the committee reports of the House and Senate do provide carefully drawn statements of purpose for the Act.

The House Committee on Education and Labor concluded that there were five basic principles underlying the provisions contained in the House bill for vocational education (H.R. 18366): (13)

- o The dichotomy between academic and vocational education is outmoded
- o Developing attitudes, basic education skills and habits appropriate for the world of work are as important as skill training
- o Prevocational orientation is necessary to introduce pupils to the world of work and provide motivation
- o Meaningful career choices are a legitimate concern of vocational education
- o Vocational programs should be developmental, not terminal, providing maximum options for students to go on to college, pursue postsecondary vocational and technical training or find employment

In examining the future direction of vocational education, as interpreted in the Senate bill for vocational education (S. 3770), the Senate committee identified three basic factors which warranted close consideration: (14)

- o The level of American education of greatest overall importance has shifted from the secondary to the postsecondary level
- o Thousands of disadvantaged young people drop out of school before high school graduation
- o The manpower needs of the economy are becoming so highly technical, varied and shifting that it is highly improbably that a single purpose, terminal, secondary school training program can adequately prepare students for a lifetime career

Following the passage of the 1968 legislation, scholars in the field of vocational education identified six broad objectives that Congress had in mind when enacting the Vocational Education Amendments of 1968: (15)

- o Increasing vocational education funding to curb the influx of underprepared people in the labor market
- o Reorienting home economics to the needs of the disadvantaged
- o Beginning preparation for employment at an earlier age, particularly for the disadvantaged
- o Encouraging the growth of technical programs at the postsecondary level

- Sponsoring new and innovative concepts through earmarked funds for exemplary and cooperative programs, residential schools, curriculum development and teacher training

- Encouraging long-range planning on the national and state level, applying leverage for change by mandating independent national and state advisory councils, and providing for more aggressive federal leadership through a tighter system of state plans

House of Representatives

Representative Meeds, a major sponsor of the 1968 Amendments, viewed the proposed legislation as a "catalyst for stimulating change in American education." (16) He saw the Act as a means for ending the divisiveness that had grown up with track systems and separate vocational schools. He believed that the Act could broaden the options of high school graduates if vocational education would provide not only skill training, but also develop habits, attitudes and values necessary for success on the job. This could be accomplished, he felt, through early exploratory activities and work experience programs, which would also serve to draw business and industry into a partnership with the schools. He supported broader training through the cluster approach as a means to better adapt students to changing job requirements.

Recognizing that unemployment existed side by side with shortages in skilled manpower, Representative Meeds saw vocational education as a potential cure. In particular, he suggested that vocational funds be utilized to attack the problems of the core cities. Finally, he hoped that the 1968 Amendments would make restitution for the lack of visibility of and national commitment to vocational education.

Representative Edith Green reemphasized the need for "restoring balance" to American education. (17) She cited the following statement from the hearings:

> We glorify the route from kindergarten through post-doctoral fellowships. The money and the emphasis are wrong. Eighty percent of the tax money raised for post high school education is used for the 20 percent who go to college. And only 20 percent of public tax money goes to the 80 percent who want to learn an employable skill.

She also saw in vocational education programming the potential for rebuilding and restoring the nation's major cities. She cited fiscal problems as a major deterrent to the life of cities populated by people who were tax consumers rather than tax payers.

Expressing his belief in strong and independent citizen participation in developing the goals of education, Representative Quie viewed the provisions for vocational education advisory councils as a central feature for building a modern structure of vocational-technical education. (18) Others, including Representative Esch, saw the 1968 Amendments as a means for moving

vocational education from relative obscurity into the forefront of our total educational structure.

This theme was further developed by Representative Pucinski, Chairman, Subcommittee on General Education of the House Committee on Education and Labor. He said to vocational educators, "the future belongs to you," for he saw vocational education as the heartbeat of massive reforms in education. He contended that the failures of American education were most visible in the large urban areas, and that the vocational education continuum held answers to the massive social problems of unemployment, rioting, crime and welfare. (19)

Although he had introduced the Administration's proposals for vocational education (the "Partnership for Learning and Earning Act of 1968"), Representative Pucinski rejected that bill because of its many ommissions. He hoped for tremendous expansion in vocational education and called on vocational educators to modify and update existing programs, remove restrictive admissions standards and extend training opportunities to all youth and adults.

Representative Pucinski defined preparation for the world of work as learning to get along with all types of people. He recognized the need for developing good work attitudes, especially among the disadvantaged, and also stressed the importance of basic education skills in job preparation.

According to Representative Pucinski, vocational education had been treated as a stepchild, that for too long the nation had been obsessed with the goal of a college education for everyone. In his view, vocational education was a means for every student to acquire a marketable skill and the 1968 legislation was a means for guaranteeing that education.

Senate

Shortly after President Johnson signed into law the Vocational Education Amendments of 1968, Senator Morse addressed the annual convention of the American Vocational Association. He used that platform to elaborate on the meaning of the new statute. (20) In his view, the educational system had been unresponsive to socio-economic problems. The 1968 legislation was designed, therefore, to bring about a basic reform in the educational system, to give citizens an opportunity to acquire skills for working and living in a technological society.

Senator Morse suggested that a strengthened vocational education system would help to alleviate the vast expenditures on remedial programs attempting to educate and train the failures of the educational system. He believed the Amendments would bring about a reordering of our educational priorities.

Pointing to the comprehensiveness of the legislation, Senator Morse expected that the Act would inspire the integration of vocational and academic education since it placed vocational education in proper context by making it a major mission of the public schools. Senator Morse also believed that the legislation would help to build better bridges between education and

business and industry. He viewed citizen participation, through the mechanism of national and state advisory councils, as an important principle of the legislation.

Senator Randolph cited particular features of the 1968 Amendments which he believed would provide for continuous progress and upgrading of vocational education. These included funds for research and training, curriculum development, collection and dissemination of information and personnel development. He also applauded the priority given in the legislation to the interests and needs of program participants. (21)

Others, including Senator Prouty, felt that the nation was not spending enough money on educational programs to meet existing problems and needs. He believed it was "penny-wise and pound-foolish" not to provide programs to keep youngsters in school but to maintain them on welfare. (22)

ACCOMPLISHMENTS OF VOCATIONAL EDUCATION, 1971-1974

Based on the preceding discussion of the intent of the 1968 Amendments, 15 major expectations have been identified to serve as focal points for presenting an overview of the accomplishments of the vocational education program during the 1971-1974 period.

In attempting to measure the extent to which vocational education has met the major mandates of the 1968 Amendments, numerous studies, reports and data sources were reviewed. Most of the information treated below has been drawn from data collected by Project Baseline, Northern Arizona University. Data were also furnished by the U. S. Office of Education and the National Advisory Council on Vocational Education. Despite the quality of these sources, there are gaps in the data which limit analysis and underscore the need for an improved data base at the national level.

In order to supplement available information, the author has had to rely on her own observations and those of other professionals in the field. The inputs of knowledgeable vocational educators are considered appropriate for the purposes of this examination of vocational education. Indeed, such "real world" perspective is so often missing from studies in which data are assembled and analyzed in a vacuum. It is believed, therefore, that both the progress and the problems in vocational education reported here represent a balanced view of the field.

Paucity of Data at the National Level

The National Advisory Council on Vocational Education stated in March, 1968: (23)

> Given the pressures of change and expansion to effectuate the new legislation, inadequate attention was given to the data and information needs of the Council and to the development of a continuing data reporting and analysis system to assure adequate information for evaluation and

> decision making. . , Unfortunately, the data collection and program evaluation system is inadequate at all levels--federal, state, and local.

Data collection at the national level is just as inadequate today, although data collection systems in the states have been greatly improved. Definitional problems abound; terms are subject to individual interpretation by different administrators in different localities. As a result, there are major inconsistencies, discrepancies and deficiencies in the data. In fact, problems exist to such a degree that even the most careful and sophisticated analyses, including those made during the course of this project, must be considered inconclusive. This is not to say that there have not been some excellent research studies conducted in vocational education, or that strides have not been made in the development of management information systems to retrieve accurate data at the state level. It simply points up the fact that, given the lack of uniformity in data reporting, data collected nationally on vocational education are at best inadequate. This problem was experienced during the development of this report when the Project Baseline data being used were found to be inconsistent with U.S. Office of Education data in many categories. Such inconsistency is due to the fact that Project Baseline data, based on U. S. Office of Education and other reports, have been updated for the years 1971 through 1974, and have been published more recently than the counterpart federal data. The fact remains, however, that such differences in data reported across sources make verification of data difficult, if not impossible. Even with some variation from one source to another, there is sufficient information to report that progress has been made in vocational education during the first half of the 1970's.

Throughout the remainder of this chapter, all data are reported by fiscal year. This should be noted by the reader, in that the fiscal year (FY) designation is not used in referencing years in the text, figures and tables.

Enrollment Growth

1. *Congress framed the 1968 Amendments with the fundamental belief that vocational education programs should continue to build on the broad and widely accepted purpose enunciated in the 1963 act, i.e., "that persons of all ages in all communities of the state will have ready access to vocational training or retraining which is of high quality--realistic in light of opportunities for gainful employment--and suited to their needs, interests, and ability to benefit from such training."*

In 1968, the Congress clearly anticipated that the enactment of the Vocational Education Amendments would result in expanded programs for vocational education students at all levels. By 1974, 2,452 area vocational schools and 1,756 community colleges and technical institutes offered a growing variety of vocational education programs. During the period 1971-1974, vocational enrollments increased from approximately 10.5 million to over 13.5 million. In 1971, there were 50.19 persons enrolled in vocational education for every 1,000 in the population and in 1974, there were 62.97 persons enrolled in vocational education for every 1,000 in the population. Table 1

Table 1

Enrollment Growth of the Vocational Education Program
1971-1974

Item	1971	1972	1973	1974
Total Enrollment	10,485,233	11,578,609	12,064,761	13,512,060
Percent Increase	--	10.43%	4.20%	12.00%

Source: Project Baseline, Northern Arizona University.

shows that the greatest growth in vocational education enrollments took place in 1974, when they rose from 12,064,761 to 13,512,060, an increase of 12 percent. The overall 1971-1974 increase was 28.87 percent. Data analysis shows a significant growth over the four-year period in total vocational education enrollments per 1,000 population, including secondary, postsecondary and adult enrollments.

Analysis of the data also indicates that as federal, state and local funding increased, enrollments increased proportionately in total secondary, postsecondary and adult vocational education programs.

Table 2, showing federal expenditures for vocational education for 1971-1974, suggests that federal funds stimulate investment of state and local dollars. For example, during 1974, state and local expenditures overmatched federal dollars $5.43 to $1.00. For the same year, state and local expenditures accounted for more than 84 percent of the total expenditures and increased at a rate greater than the federal expenditures. The funding partnership between the states and the federal government has apparently exceeded expectations. Experience gained over the past few years suggests that if federal funds were expanded, more state and local funds would be made available for vocational education.

Data are also available on the age distribution of enrollees in vocational education. As can be seen in Table 3, over five million persons, aged 20 years and over, participated in postsecondary and adult programs in 1974. It is anticipated that the average age of vocational education program participants will rise in the next few years. Limited data are available to support this trend, however. It is interesting to note that 10 percent of the total United States population between the ages of 15 and 64 years were enrolled in vocational education programs.

Table 2

Total Expenditures for Vocational Education
1971-1974

Source of Funds	1971	1972	1973	1974
Federal Allotment:	$ 412,812,093	$ 471,968,455	$ 549,087,455	$ 507,851,455
Expenditures:				
Federal	393,926,863	465,334,274	481,817,114	551,442,453
State/Local	2,005,098,155	2,192,214,457	2,548,840,378	2,996,446,575
Grand Total	$2,399,025,018	$2,657,548,731	$3,030,657,492	$3,547,887,028
Ratio:				
State/Local to Federal	$5.09/$1.00	$4.71/$1.00	$5.29/$1.00	$5.43/$1.00
Percentage Distribution:				
Federal	16.4%	17.5%	15.9%	15.5%
State/Local	83.6%	82.5%	84.1%	84.5%
Percentage Change from Previous Year:				
Federal		18.1%	3.5%	14.5%
State		9.3%	16.3%	17.6%
Grand Total		10.8%	14.0%	17.1%

Source: Project Baseline, Northern Arizona University (Except Federal Allotment).

Source for Federal Allotment: Division of Vocational and Technical Education, Trends in Vocational Education, Fiscal Ycar 1973 (Washington: U. S. Office of Education, U. S. Department of Health, Education and Welfare, 1974), p. 15.

Source for Federal Allotment: Division of Vocational and Technical Education, Trends in Vocational Education, Fiscal Year 1974 (Washington: U. S. Office of Education, U. S. Department of Health, Education and Welfare, 1975), p. 15.

Table 3

Vocational Education Enrollments Distributed by Age Group
1974

Group and Age	Total Population	Group Enrollment	Percent of Total Population by Age Group
Secondary 15-19 years	20,893,000	8,387,026	40.14%
Postsecondary 20-24 years	17,721,000	1,591,400	8.98%
Adult 25-64 years	96,542,000	3,533,634	3.66%
Total 15-64 years	135,156,000	13,512,060	9.99%

Source: Project Baseline, Northern Arizona University

Expanded Vocational Education Programs

2. *The 1968 Amendments recognized the necessity for expanding adult, postsecondary and secondary vocational education programs. The Congress was particularly interested in having postsecondary programs expanded and set aside funds for that specific purpose.*

Postsecondary and Adult

In recent years, vocational education has been more responsive to postsecondary and adult education needs, as evidenced by both increased offerings and increased enrollments. Technological changes underlie the demand for more sophisticated preparation for the world of work. Furthermore, recent attention to continuing education and life-long learning has no doubt contributed to growth in these areas.

During the period 1971-1974, postsecondary enrollments grew from 1,116,044 to 1,591,400, and increase of approximately 42.6 percent. Adult enrollments rose from 2,881,735 to 3,533,634, an increase of approximately 22.6 percent. Table 4 shows the changes in vocational education enrollments by student level.

During the same period, federal, state and local funds invested in postsecondary programs increased from $554.47 per student to $604.64 per student, while the total federal, state and local funds invested per adult in vocational education decreased from $74.46 to $70.40. In the absence of qualitative data, it is not possible to verify that program quality has

improved at the postsecondary level as a result of increased expenditures per student. Nor is it possible to assess the impact of lower expenditures per student at the adult level.

Table 4

Changes in Enrollment in Vocational Education
1971-1974

Student Level	Enrollment				Percent Change*		
	1971	1972	1973	1974	1972	1973	1974
Secondary	6,487,466	7,211,527	7,348,666	8,387,026	11.16%	1.90%	14.13%
Postsecondary	1,116,004	1,277,456	1,349,465	1,591,400	14.46%	5.64%	17.93%
Adult	2,881,735	3,089,626	3,366,630	3,533,634	7.21%	8.97%	4.96%
Disadvantaged	1,393,356	1,608,187	1,581,025	1,631,922	15.42%	-1.69%	3.22%
Handicapped	202,910	221,295	222,713	235,569	9.06%	0.64%	5.77%

*Changes were increases unless designated by minus sign (-).

Source: Project Baseline, Northern Arizona University.

There appears to be no question that postsecondary and adult vocational education needs will continue to grow. As stated earlier, highly specialized programs will be increasingly in demand in our technological society. In addition, the need for adult programs designed to train, retrain and upgrade workers will become more crucial as technology or economic changes continue to displace thousands in the labor force.

Secondary

Secondary enrollments in federally assisted vocational education programs increased substantially between 1971 and 1974. During this period, secondary enrollments increased from 6,487,446 to 8,387,026, a growth of approximately 29.3 percent. Federal, state and local funds invested in secondary programs during the same period increased from $238.19 to $254.10 per student. Again, it is impossible to determine whether increased expenditures per student have contributed to improving the quality and effectiveness of secondary vocational education programs.

In addition to enrollment increases, the number of program offerings in new and emerging occupational areas also expanded. The emphasis placed on occupational clustering appears to have increased the number of options for students seeking employment and advancement on the job.

Enrollment trends in the various occupational areas have shown consistent, though varying, rates of growth. Table 5 illustrates this growth, expressed as percentage increase over the previous year.

Table 5

Percentage Increase in Enrollments by Vocational Education Fields 1971-1974

Field	Percentage Increase				
	1971	1972	1973	1974	1971-1974
Agriculture	--	6.08%	3.49%	5.23%	15.53%
Distributive Education	--	10.74%	15.36%	12.86%	44.18%
Health Occupations	--	24.90%	25.07%	20.16%	87.72%
Consumer and Homemaking	--	7.96%	0.75%	0.51%	9.32%
Occupational Home Economics	--	41.90%	15.61%	53.70%	152.16%
Office Occupations	--	5.63%	6.28%	10.41%	23.95%
Technical Education	--	7.55%	8.10%	8.04%	25.62%
Trade and Industrial	--	15.49%	12.66%	4.59%	36.08%

Source: Project Baseline, Northern Arizona University.

Occupational home economics, having grown almost 42 percent between 1971 and 1972, has continued to show the greatest yearly increase, with the exception of the 1972-1973 year, when health occupations showed an enrollment increase of over 25 percent. Only these two fields grew disproportionately to the statistical expectations, as shown by analysis of Project Baseline data.

Impact on Unemployment

3. *The Congress expected that the 1968 Amendments would help alleviate unemployment and poverty, and bring new hope to those who had not been well served by the school system.*

The economic problems which developed between 1971 and 1974 cloud the question of whether vocational education, or any occupational training program, could have reduced unemployment or problems of poverty. The fact remains that many individuals were prepared for employment during this period, as evidenced by the number of vocational education students completing their programs and the numbers obtaining placement.

Two of the measures of the success of vocational education are the proportion of participants who complete the program and who find appropriate employment. The overall completion and placement figures for the total vocational education program are presented in Table 6. For the purposes of this report, placement is defined as employment in fields related or unrelated

Table 6

Vocational Education Completions and Placements
1971-1974

Item	1971	1972	1973	1974
Completions	1,493,247	1,588,603	1,938,379	2,111,032
Left with Marketable Skills	122,803	135,501	110,377	218,556
Status Unknown	319,409	293,537	336,717	364,095
Not Available for Placement	394,665	457,161	457,891	519,149
Continuing into Higher Education	303,415	325,478	314,314	352,197
Available for Placement	819,109	968,050	1,094,417	1,204,923
Employed Full Time in Related Field	564,506	671,895	727,957	779,862
Unemployed	88,215	89,901	99,119	120,746
Employed, Not in Related Field	163,574	206,513	267,343	303,270

Source: Project Baseline, Northern Arizona University.

to training. Although continuing education may well be considered appropriate for many vocational education students, the emphasis in vocational education programs has been primarily on the development of marketable skills and subsequent entry into the work force to apply those skills.

Between 1971 and 1974, the numbers of vocational education completions and placements at all levels increased steadily. Indeed, the 1974 completions exceeded the 1971 completions by more than 41 percent. The 1974 placements, both related and unrelated to field of training, exceeded the 1971 placements by 48.8 percent. The number leaving the program with marketable skills almost doubled between 1973 and 1974.

Analysis of the data in Table 6 indicates that the proportion of program completers available for placement was generally stable over the four-year period, with an increase from 55 to 61 percent from 1971 to 1972, and a return to 56.5 and 57 percent for 1973 and 1974, respectively. It is interesting to note that the proportion of program completers unemployed also fluctuated but has remained generally stable for the overall period. While the proportion dropped from 5.9 to 5.1 percent between 1971 and 1973, it

returned to 5.7 percent in 1974. It is also interesting to note that as a percentage of program completers available for placement, the number of unemployed vocational education graduates dropped steadily between 1971 and 1973 (from 10.8 percent to 9.1 percent) before returning to 10 percent in 1974.

In terms of percentage of enrollments, Tables 7, 8 and 9 show that completions in secondary vocational education fell from 15.47 percent to 15.36 percent in the four-year period. Postsecondary completions increased overall, as did adult education completions, even though the percentage of adult completions dropped in 1974.

Table 7

Secondary Vocational Education Completions
1971-1974

Fiscal Year	Number of Completions	Percent of Enrollment
1971	1,003,491	15.47%
1972	1,049,061	14.55%
1973	1,153,873	15.70%
1974	1,287,874	15.36%

Source: Project Baseline, Northern Arizona University.

Table 8

Postsecondary Vocational Education Completions
1971-1974

Fiscal Year	Number of Completions	Percent of Enrollment
1971	324,531	29.08%
1972	341,682	26.75%
1973	419,054	31.05%
1974	527,724	33.16%

Source: Project Baseline, Northern Arizona University.

Table 9

Adult Preparatory Vocational Education Completions
1971-1974

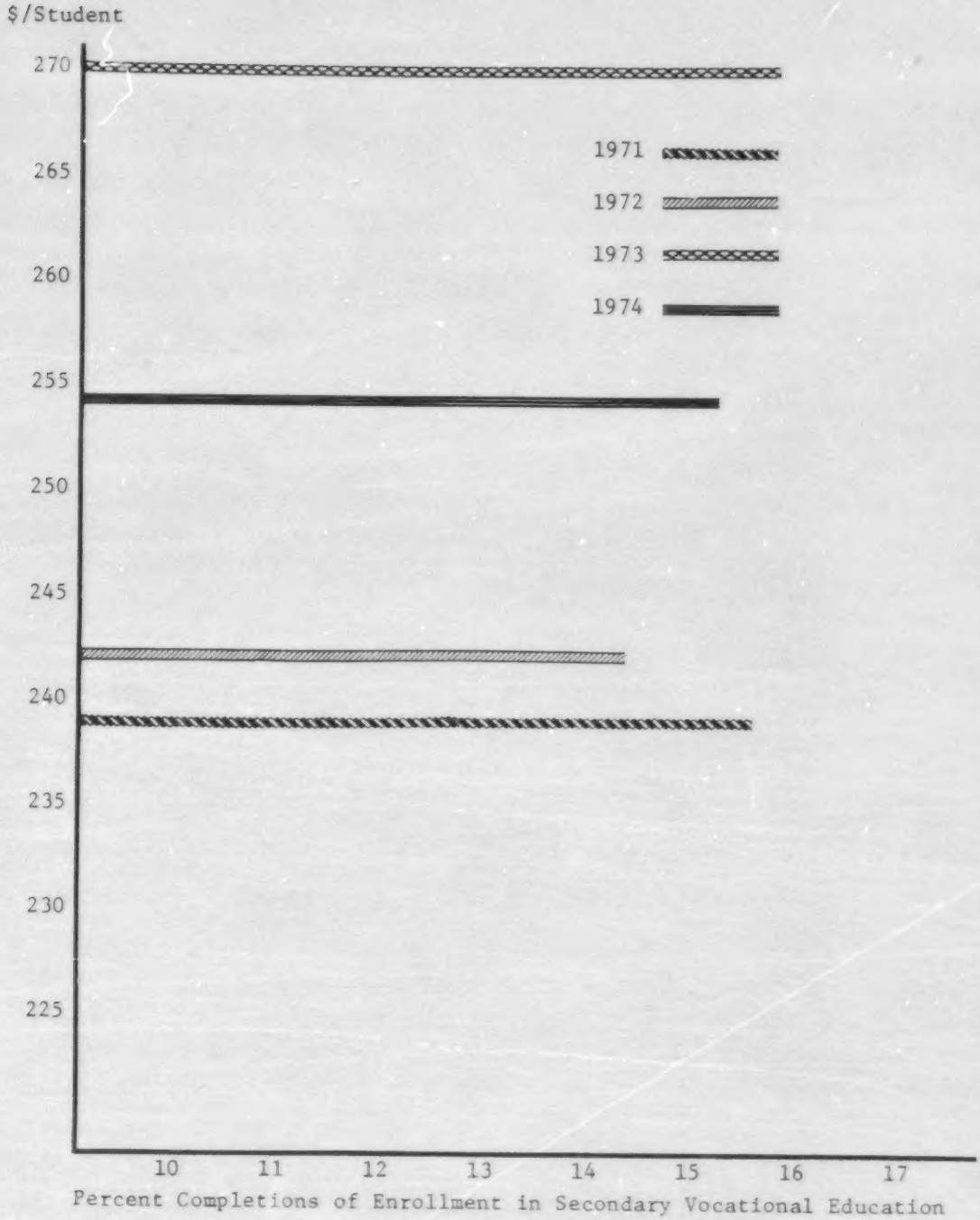
Fiscal Year	Number of Completions	Percent of Enrollment
1971	165,225	5.73%
1972	197,860	6.40%
1973	365,452	10.86%
1974	295,434	8.36%

Source: Project Baseline, Northern Arizona University.

The data analysis indicates that increases in federal and state/local expenditures were accompanied by higher numbers of program completions in total vocational education programs, in secondary and in postsecondary programs. Less relationship seems to exist between increased funding and adult program completions.

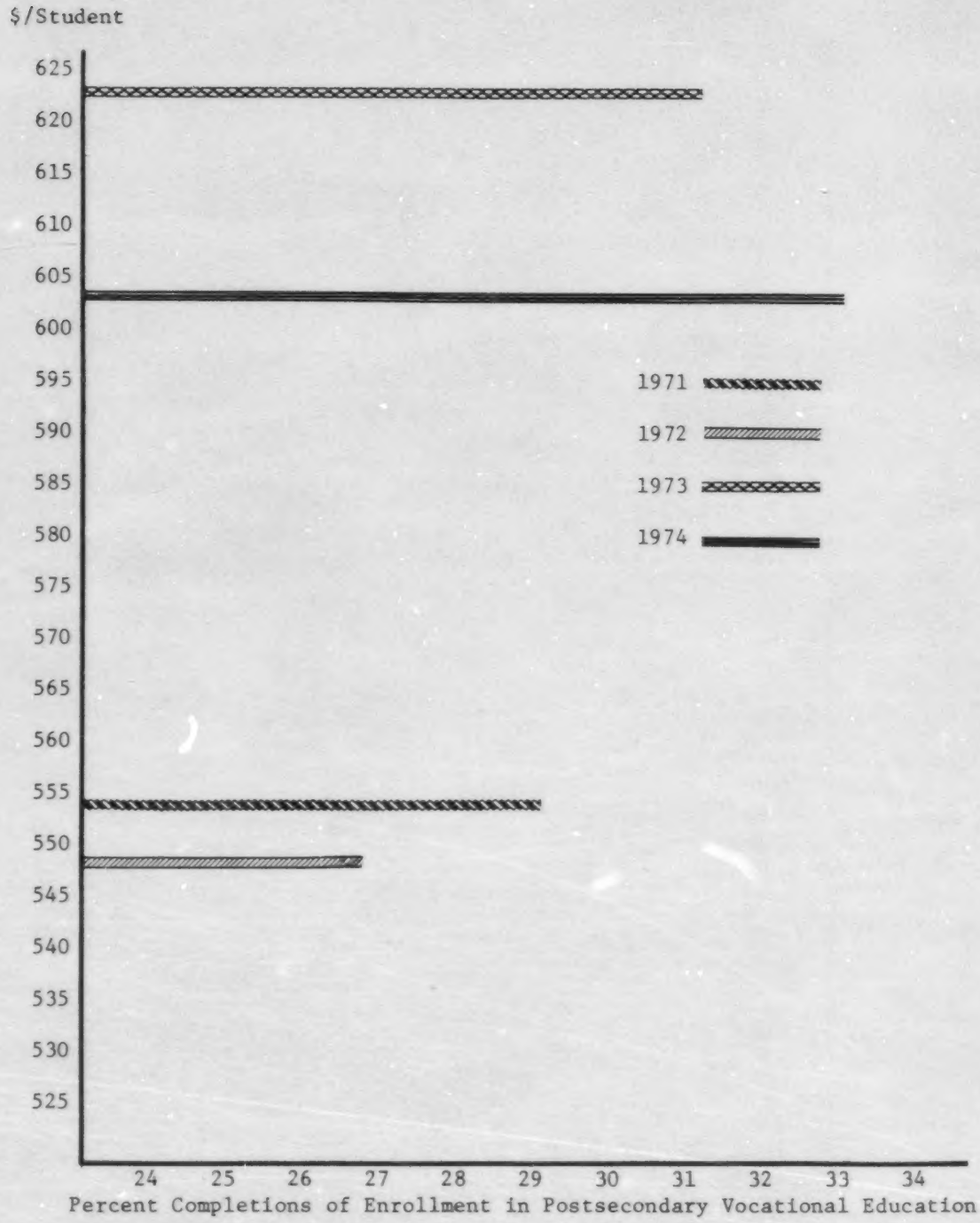
Figures 1, 2 and 3 show the relationship between expenditures and program completions. In Figure 1, the completion rates for secondary vocational education students are shown to be quite stable over the 1971-1974 period, while total expenditures per student increased through 1973 and decreased in 1974. In Figure 2, postsecondary completion rates drop from 1971 to 1972 before starting to climb steadily through 1974. Expenditures per postsecondary student fluctuate widely over this period, with an increase of $74.58 per student occurring between 1972 and 1973, followed by a drop of $19.34 per student in 1974. In Figure 3, completion rates for adults in vocational education are shown to increase through 1973 and drop back in 1974, though remaining well above 1971 and 1972 levels. Expenditures per adult dropped steadily, and substantially, between 1971 and 1973 before increasing again in 1974. Overall, expenditures per adult dropped 5.8 percent between 1971 and 1974.

While the numbers of completions and placements reflect the growing success of vocational education programs and supportive services, they do not answer some very fundamental questions. What is happening to those students who did not complete their programs? Have the students who found jobs remained in those jobs and if so, have they found satisfaction in their employment? Until a national follow-up system is established, we simply will not know how effectively vocational education is preparing youth and adults for the labor market.



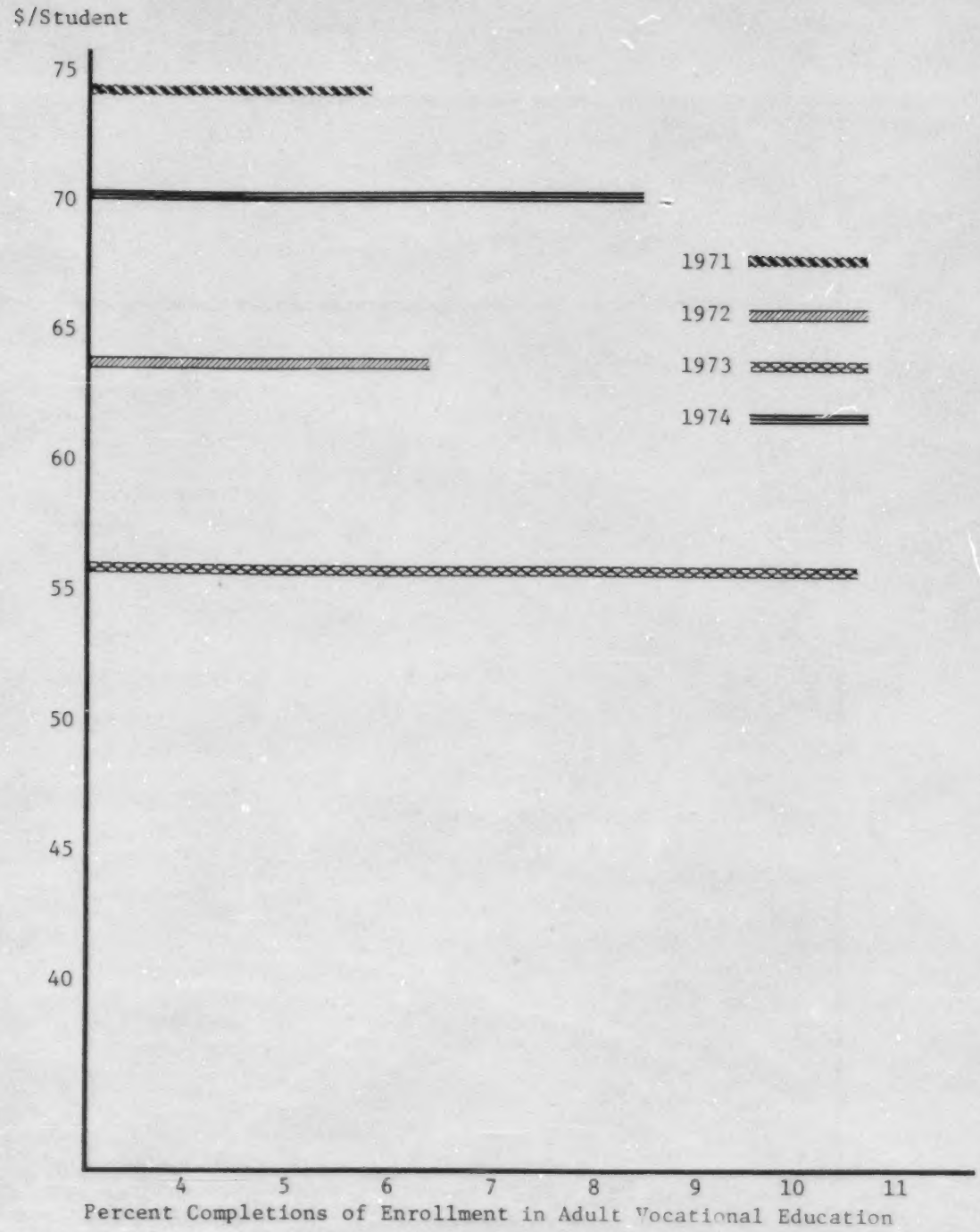
Source: Project Baseline, Northern Arizona University.

Figure 1. Total Expenditures/Student Related to Completions, Secondary Vocational Education, 1971-1974



Source: Project Baseline, Northern Arizona University.

Figure 2. Total Expenditures/Student Related to Completions, Postsecondary Vocational Education, 1971-1974



Source: Project Baseline, Northern Arizona University.

Figure 3. Total Expenditures/Student Related to Completions, Adult Vocational Education, 1971-1974

Programs for the Disadvantaged and Handicapped

4. *Congress clearly expected vocational education to devote greater attention and resources to programs serving the disadvantaged. It was believed that vocational education had a unique capability to help the disadvantaged and to bring new life to the core cities.*

During the period 1971-1974, vocational education enrollments of socio-economically disadvantaged persons increased from 1,393,356 to 1,631,922, or approximately 17.1 percent. During the same period, enrollments of physically handicapped persons rose from 202,910 to 235,569, or approximately 16.1 percent.

Both disadvantaged and handicapped student enrollments show consistent decreases as percentages of total vocational education enrollments. Disadvantaged enrollments peaked in 1972, at 13.89 percent of the total. Table 10 reveals that handicapped students comprised 1.94 percent of total enrollments in 1971, the highest year in terms of percentage of total enrollments.

Table 10

Disadvantaged and Handicapped Student Enrollments as Percentages of Total Vocational Enrollment 1971-1974

Type	1971	1972	1973	1974
Disadvantaged	13.29	13.89	13.10	12.08
Handicapped	1.94	1.91	1.85	1.74

Source: Project Baseline, Northern Arizona University

Despite inconsistencies in reported data, it is apparent, nonetheless, that educational services to persons with special needs have not grown to the extent anticipated. However, there are a number of prevailing factors to explain the slow growth. Socio-economically disadvantaged and physically handicapped persons qualify for many services supported by various federal and state agencies. Adults who qualify for special assistance generally seek out those programs which provide concurrent financial assistance and disadvantaged or handicapped vocational education students do not qualify for financial assistance or stipends. The definitions for "socio-economically disadvantaged" and "handicapped" need clarification so that those who may best benefit from the kinds of programs and services vocational education has to offer can be identified and recruited.

Vocational education programs in the core cities are caught in a double bind. Most core city schools face higher costs for basic expenses (such as teacher salaries, construction and equipment maintenance and repair) than do rural and suburban schools. Moreover, cities have a disproportionately high

number of disadvantaged students requiring more expensive program services. Funding per capita is less than that received by other types of school districts, while the costs per student are generally higher.

Like most other social programs serving the core cities, vocational education, while improving both the quantity and hopefully the quality of ongoing programs, is still struggling to accommodate the special needs of students. Although a number of innovative projects report success, programs for the disadvantaged are difficult to evaluate. Hard data are not available nationally which adequately portray the extent to which vocational education programs are having an impact on alleviating the problems of students in core city schools.

Residential Vocational Schools

5. *The Congress believed that the provision in the 1968 Amendments for residential vocational schools and facilities would expand the potential for vocational education to serve rural and urban students, particularly those who were disadvantaged.*

Although the legislation authorized funds for residential schools, the Congress has never appropriated funds for development of residential vocational education facilities. Although most states do not have such facilities, a few have successfully operated residential facilities for institutional manpower training programs administered by the State Board for Vocational Education. Apparently, the Congress has felt that Job Corps Centers operated under the provisions of the Office of Economic Opportunity (now Community Services Administration) have adequately met the need for residential centers.

Integration of Academic and Vocational Education

6. *Vocational education, through the 1968 Amendments, was expected to bring relevance to schooling through a capacity for integrating the practical with the theoretical. It was believed that a strengthened vocational education program could bring an end to the dichotomy between vocational and academic education.*

There are scant data to support the claim that the 1968 Amendments have made an impact on integrating practical and theoretical approaches to learning. However, during the past few years vocational educators have been committed to developing more sophisticated programs and curricula which better relate theoretical knowledge to skill training. On a larger scale, the rapid growth of shared-time vocational centers illustrates genuine administrative commitment to integrating academic and vocational education.

The introduction of the career education concept, which emphasizes the necessity for both vocational and academic instruction, has apparently had a positive effect on vocational education. Leaders promoting the introduction of career education in the schools have generated support for the notion that all persons need to know about the world of work and that all persons need to know about the world of work and that all persons should have some kind of a saleable skill.

The long-held misconception that vocational education students are inferior to academic students has been somewhat dispelled. Whether or not this is a result of the 1968 Amendments, one cannot say. Apparently there are a number of factors at work which have enhanced the way in which the population perceives vocational education. For example, the unusually high unemployment rate of young persons, particularly those without saleable skills, has led the public to question the relevance of general education. Moreover, the public appears to be better informed about what vocational education is and what it contributes to society. In general, there appears to be some disillusionment with college education and an awakening interest in vocationalism.

Vocational Education Funds for Career Education

7. *The Congress expected the broadened scope of vocational education to include career development, exploratory activities and employability skills.*

The career education concept, which includes vocational education as a component, was introduced and promoted by the U. S. Commissioner of Education in the early 1970's without legislative mandate or authority. Federal spokespersons interested in advancing the concept argued that acquainting students with the world of work would inevitably enhance the need for vocational education. Federal officials, through administrative policy, thus redirected vocational education funds to the design and implementation of career education programs throughout the country. The effort to achieve a better balance between academic and vocational education was hailed as a way of transforming education into a more relevant and democratic process.

During the early 1970's, federal vocational education funds were pumped into programs designed to make the career education concept a reality in grades K through 14. It was not until the Congress enacted the Education Amendments of 1974 that career education was given legislative authority. Even then, only $10 million were authorized for career education nationally.

The career education movement, while receiving nationwide emphasis, has been largely a state and local venture. Although there is no body of quantitative and qualitative data on the impact of career education, there is certainly enough information to confirm that the movement is gaining national momentum. Vocational educators support the concept as the means for providing career orientation and exploration along with positive attitudes toward work as early as the elementary and middle school grades. Although most vocational educators recognize that vocational and career education are not synonymous, they consider vocational education as an integral part of career education. In fact, from all appearances, the leadership for developing and installing career education across the country has been drawn largely from the vocational education community. Many academic educators are becoming more deeply involved in this development. With their involvement, it is anticipated that the old dichotomy between academic and vocational education will be removed from American education, and that education will begin preparing students for vocations as well as avocations.

Restoring Balance in Education

8. *The Congress viewed the 1968 Amendments as a catalyst for change, a means for restoring balance in an education system where students were directed primarily toward college.*

Data to support the extent to which the 1968 Amendments have served as a catalyst for change in education are not available nationally. There are some indications, however, that increased funding at the federal, state and local level has made it possible for vocational education to accommodate more students. For example, during the period 1971-1974 vocational education enrollments increased more than 28 percent. In the same period, college enrollments increased 11.2 percent, according to the American Council on Education. While the actual numbers of persons attending college far exceed the numbers of persons enrolled in vocational education programs, it is significant to note that, whatever social and financial factors are involved, those selecting vocational education have increased at a greater rate than those choosing to go to college. It should be noted, however, that many students not well served by vocational education previously, such as the disadvantaged and handicapped, are being accommodated to a greater extent, and this may account for a portion of the vocational education growth rate.

Increased emphasis on the need for technically qualified workers has brought about increased vocational education offerings in postsecondary institutions, particularly community colleges and technical institutes. This means that many attractive new options have opened to students continuing their education beyond the secondary level.

Increased Linkages Between Education and Business and Industry

9. *The Congress expected that the 1968 Amendments would assist in building better linkages from school to community, especially in bringing about a closer partnership between education and industry. Provisions were included for a vast increase in cooperative vocational education and work-study programs. By integrating schooling and on-the-job training, employers and schools would become full partners in the educational process.*

Since the enactment of the 1968 Amendments, vocational education has greatly improved relationships with the employment community. Certainly the national and state advisory councils have strengthened this interface. In addition, most vocational education programs are relying on local advisory committees to assist in establishing training needs and employment requirements. The use of such committees generates immediate feedback as to the kinds of competencies which should be built into the curriculum to assure that students will be able to perform successfully on the job. Furthermore, business and industry have developed a better understanding of education as a result of participation in local advisory committees.

During the period 1971-1974, total expenditures for cooperative education rose from $28,025,961 to $53,227,291. Student enrollments in cooperative education programs increased from 379,585 to 605,298. Cooperative education programs are designed to give students on-the-job work experience related

to their training program. Such experience is supervised by a participating teacher in conjunction with the employer.

From 1971 to 1974, total expenditures for work-study programs fluctuated slightly. According to the U. S. Office of Education, total expenditures for work-study were as follows:

- 1971 - $ 9,042,766
- 1972 - $11,409,966
- 1973 - $ 9,777,319
- 1974 - $12,305,740

Participation in work-study programs increased from a total of 28,624 in 1971 to 43,619 in 1974. Work-study programs are designed to provide work experiences for students who need employment in order to stay in school, although the jobs are not necessarily related to the training programs in which these students are enrolled. Both cooperative education and work-study programs introduce students to the world of work and assist them in becoming more knowledgeable about occupations and the expectations of employers. Yet, both cooperative and work-study programs are limited in enrollment compared to the total vocational education enrollment.

Curriculum Development

10. *The Congress expected that vocational education would constitute a vital weapon in the battle to maintain full employment. Programs and curricula would be designed to make it possible for workers to cope more readily with technological displacement and automation. By directing funds toward curriculum development and change, vocational education programming could be broadened to embrace clusters or families of occupations. Students completing these programs would be prepared for a number of related jobs and could more easily adapt to changing employment conditions.*

While the 1968 Amendments may have contributed in some way to the effort to maintain full employment, data to justify such an achievement are at best inadequate. Moreover, the 1968 Amendments were enacted at a time prior to the slow-down in productivity, runaway inflation, high interest rates, the tight money market and a disastrously high unemployment rate. In addition, government controls imposed as a result of the energy crisis had not been employed in the late 1960's. Although this country has had a Full Employment Act since 1946, neither the executive or the legislative branch of government has provided impetus and funds needed to move toward full employment. While unemployment continues to soar and hover above eight percent, it appears that full employment may be an impossible goal to attain.

Between 1971 and 1974, the Congress appropriated $4 million each year for curriculum development under the provisions of Part I of the 1968 Amendments. While high expectations were held for a massive curriculum development program across the nation, funds have been limited in proportion

to need. When one examines the data for the period 1971-1974 and compares total expenditures for vocational education by function, it is clear that curriculum development is a low priority.

An analysis of percentage of vocational education funds expended for curriculum development indicates the following:

- o 1971 - .4 percent
- o 1972 - .4 percent
- o 1973 - .3 percent
- o 1974 - .5 percent

Even with this limited investment, positive strides have been made in design and development of curricula for new and emerging technologies and in revision and modification of existing curricula for ongoing programs. Importantly, funds provided under Part I have made possible the development of the cluster concept in curriculum design. This concept holds great promise for vocational education. The cluster approach encourages students to acquire a saleable skill in one area while becoming knowledgeable about a host of related occupations. Thus, as workers, they will be able to transfer more readily from one job to another within a cluster or family of related occupations.

Research and Development

11. *Research and development were identified as mandatory components of the vocational education system, with a division of labor established between the U. S. Office of Education and the State Boards for Vocational Education. Ten percent of the funds appropriated for vocational education were to be directed toward building a research and development system which could address priority needs.*

Although the 1968 Amendments provided that 10 percent of the basic grant funds appropriated for vocational education must be used for research, Congress has annually appropriated a line item for research. Yet, only in 1971 did Congress appropriate $35,034,000 for research, which was approximately 10 percent of the states' grants. From 1972 to 1974, Congress appropriated only $18 million annually. According to Project Baseline, federal expenditures for vocational education ranged as follows:

- o 1971 - $ 393,926,863
- o 1972 - $ 465,334,274
- o 1973 - $ 481,817,114
- o 1974 - $ 551,442,453

Obviously, appropriations for research and development have fallen far short of the 10 percent authorization originally mandated by Congress.

Despite inadequate funding, there have been many excellent research projects which have contributed to the advancement of vocational education. More definitive data are needed for determining the impact of vocational education research on the improvement of the program nationally. Data on individual projects are available, although the information is relatively inaccessible. Thus far, policy makers at the federal level have tended to emphasize research and development much more than dissemination and utilization of research findings. The Education Resources Information System (ERIC) has served to pull together summary information on research and development in vocational education as well as other areas of education, but the use of this system outside the research community is limited.

One effort which should be useful to both practitioners and researchers is that of the Committee on Vocational Education Research of the National Academy of Sciences. This committee is making an intensive study of the impact of vocational education research dating back to the 1963 act.

Basic research, as well as applied research, is necessary in vocational education. To date, however, neither the U. S. Office of Education nor the National Institute of Education has focused attention on basic research needs of vocational education. Basic research designed to examine the philosophy and theory of vocational education is urgently required as vocational education programs evolve to meet the changing social and economic needs of the nation.

Research projects funded by the U. S. Commissioner of Education's five percent portion of the funds are supposed to have been focused on national needs. While many exciting projects have been supported, and while many have been completed, with findings being used by practitioners in the field, efforts are sometimes uncoordinated and duplicative. When national projects are funded, contractors frequently spend an inordinate amount of time finding out what has already been done or what is already under development. Similarly, states fund projects which might be of value to others, but the findings do not always get to the people who could benefit from them.

Many research needs transcend state or regional boundaries and have vital implications for the nation and the total vocational education program. It is the view of most researchers that national as well as state priorities should be addressed on an ongoing rather than piecemeal basis. Systematic, sustained study is needed to enable researchers to examine adequately the many factors associated with the design and development of programs which effectively accommodate the social and economic needs of the nation. This cannot and will not happen unless plans are implemented to assure that a total, well-coordinated system of research, development, dissemination and utilization is initiated and operative.

Personnel Development

12. Personnel needs were addressed as Congress anticipated growth, expansion and change in vocational education programming.

During the period 1971-1974, the number of individual vocational education teachers increased from 211,550 to 266,220, according to the

U. S. Office of Education. However, data reported on vocational teachers after 1972 are not entirely compatable with figures reported in prior years. This is due to the fact that data on secondary and postsecondary teachers were previously reported on a full-time equivalency basis rather than by numbers of full-time and part-time teachers. Accordingly, in Figure 4 the percentage distributions of teachers by level in 1973 and 1974 reflect a much higher percentage of teachers at the secondary level and a proportionate reduction at the adult education level, where most teachers serve on a part-time basis. Figure 5 shows that the number of teachers in preservice teacher education programs remained about the same during the period 1971-1974, while enrollments of teachers in inservice programs increased from 80,746 to 109,250. Project Baseline data indicate that in 1974 there was a dearth of vocational education teachers in selected vocational fields.

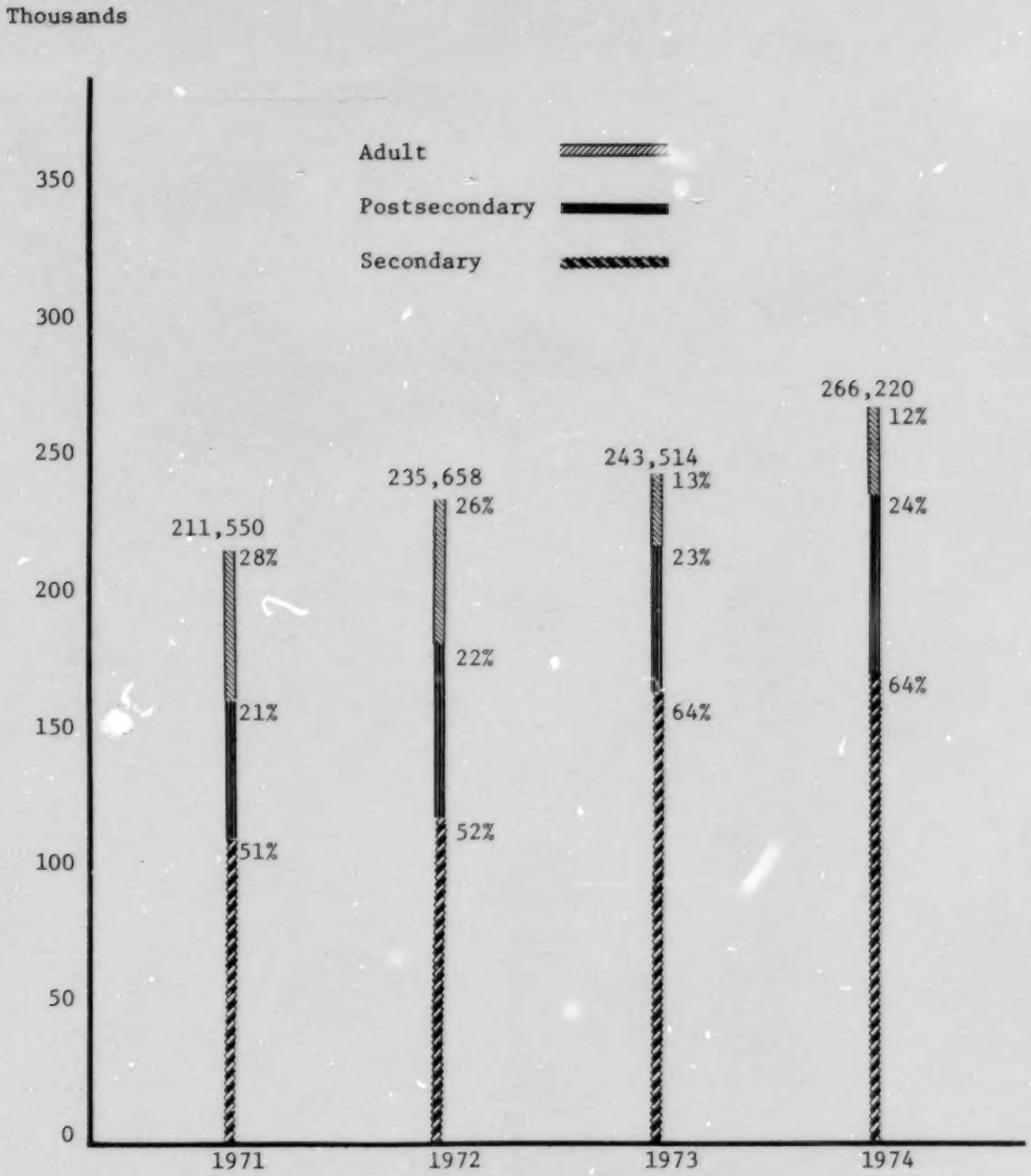
For the period 1971-1974, the leadership development program, under the Education Professions Development Act, Part F, sponsored the enrollment of 1,065 persons in 33 institutions offering comprehensive vocational education graduate programs. The Education Professions Development Act is focused on preparing leaders in the field of vocational education. The program has made significant strides in meeting its objectives.

Impact of Vocational Education on Manpower Programs

13. *The Congress believed that the implementation of the 1968 Amendments would obviate the necessity for manpower programs, which had expanded during the 1960's. Vocational education was viewed as a preventive program, in contrast to manpower and poverty programs, which were considered mainly remedial.*

Although the Congress apparently felt that the 1968 Amendments would reduce the need for manpower programs aimed at remediation and job training, neither the Congress nor the executive branch of government has developed policies to effect such an expectation. A review of Project Baseline data reveals that programs offered to out-of-school youth and adults through the vocational education system are far less costly than those offered under various federally sponsored manpower programs. For example, even with spiraling inflation, the cost per student in adult vocational education actually dropped from $74.40 to $70.40 during the period 1971-1974. The best estimates available on the cost per trainee under federally sponsored manpower training and retraining programs during the same period put the cost at at least $2,000. Because most federally sponsored manpower programs include stipends for persons in training, there is no way of determining actual training costs, except for those trainees enrolled in institutional programs operated through the vocational education system. There are now relatively few manpower trainees enrolled in the vocational schools, however. The programs funded under the recent Comprehensive Employment and Training Act (CETA) fail to utilize vocational education institutions and experience to the same extent as did the programs sponsored under the old Manpower Development and Training Act (MDTA).

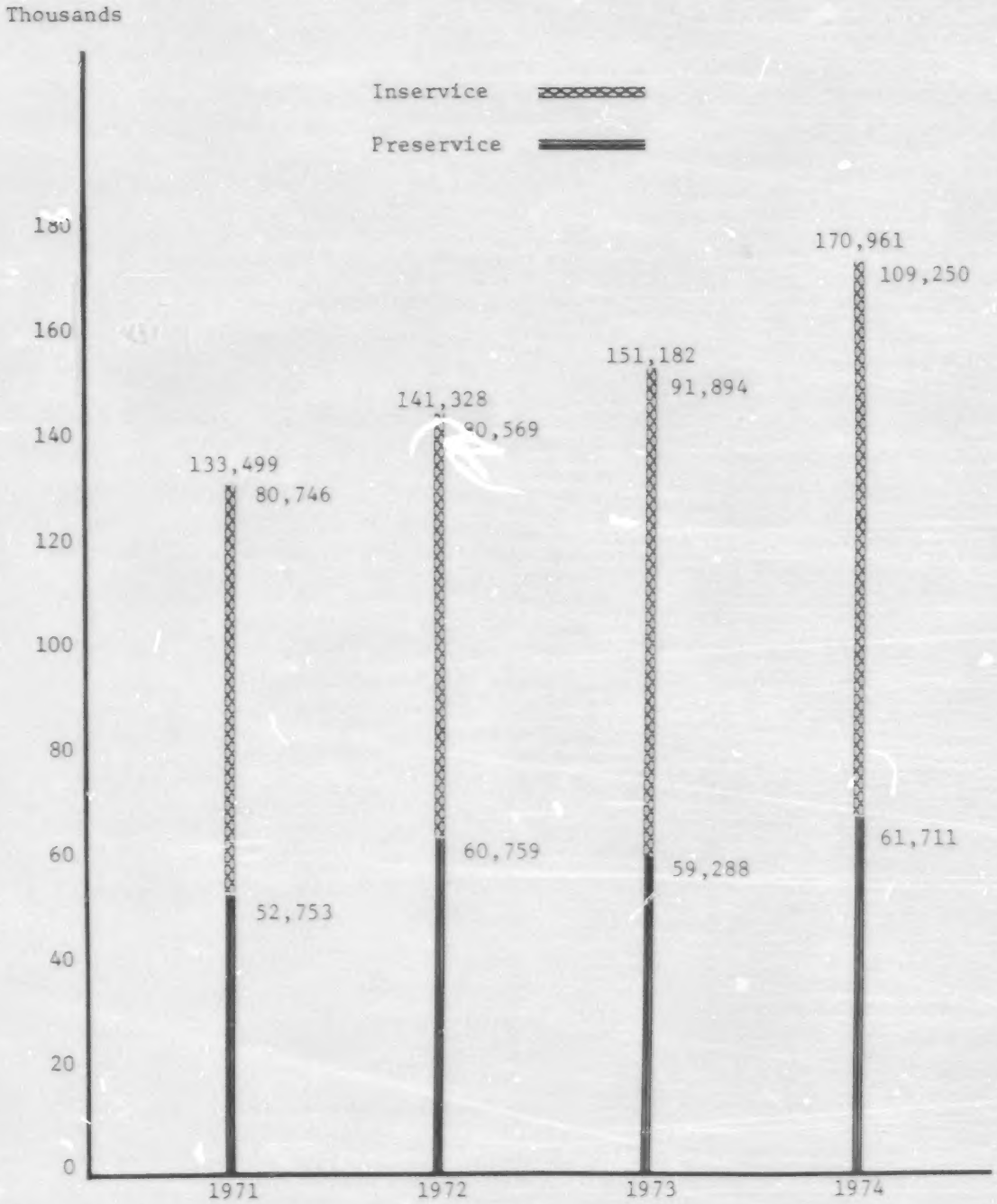
The question of proper mix between vocational education and manpower programs is one which cannot be fully answered without improved data. One of the reasons for continued funding of manpower programs, in the face of



Note: Percentage calculated on full-time equivalent in 1973 and 1974 instead of number of teachers.

Source: Trends in Vocational Education, Fiscal Year 1974, U. S. Department of Health, Education and Welfare, Office of Education, Bureau of Occupational and Adult Education, Division of Vocational and Technical Education, Washington, D. C., p. 23.

Figure 4. Teachers of Vocational Education by Level, 1971-1974



Source: Trends in Vocational Education, Fiscal Year 1974, U. S. Department of Health, Education and Welfare, Office of Education, Bureau of Occupational and Adult Education, Division of Vocational and Technical Education, Washington, D. C., p. 25.

Figure 5. Enrollments in Teacher Education, 1971-1974

evidence that vocational education is far less costly, must lie in the fact that other data needed to demonstrate the effectiveness of vocational education services to the manpower target population have not been developed. This is not to suggest that data are needed to show that vocational education can, or should, take over all manpower functions. This is to say, rather, that data are needed to show that there are certain functions that can best be provided by vocational education in most communities, and that failure to employ vocational education for these functions is costly in both human and financial terms.

Experience has shown that vocational education can meet the occupational training needs of large segments of our student and adult population. However, as pointed out earlier, there are target groups with needs that have not and cannot be met by vocational education as currently structured. If we are to have a truly comprehensive education and training delivery system, that system must accommodate those able to succeed, and unable to succeed, in vocational education programs. Manpower programs should complement vocational education programs in serving those segments of the population which cannot be adequately served by the present vocational education system.

Vocational Education Advisory Councils

14. *The 1968 Amendments clearly intended to bring about citizen participation in the establishment of goals for vocational education and in the implementation of programs. National and state advisory councils were created as mechanisms for assuring that the decision-making process would be opened up to citizen participation.*

National Advisory Council on Vocational Education

The Vocational Education Amendments of 1968 created a National Advisory Council on Vocational Education, consisting of 21 members appointed by the President of the United States to serve three-year terms. The National Council advises the U. S. Commissioner of Education concerning:

- Administration of, operation of and preparation of general regulations for vocational education programs
- Review of the administration and operation of vocational education, including the effectiveness of programs in meeting the purposes for which they are established and operated, making recommendations with respect thereto, and making an annual report of findings and recommendations to the Secretary of the Department of Health, Education, and Welfare for transmittal to the Congress
- Conduct of independent evaluations of programs carried out under provisions of the Vocational Education Amendments of 1968

The National Advisory Council on Vocational Education includes a number of experts:

- Representative of labor and management who have knowledge of and expertise in semi-skilled, skilled and technical employment as well as new and emerging occupational fields
- Familiar with manpower problems and administration of manpower programs
- Knowledgeable about the administration of state and local vocational education programs
- Experienced in the education and training of the handicapped
- Familiar with the special problems and needs of the socio-economically disadvantaged
- Knowledgeable about postsecondary and adult vocational education programs
- Representative of the general public, including parents and students

The Council has no administrative powers, but it is an effective force in ensuring that concerns of the general public are expressed with respect to substance and direction of the vocational education program nationally. Among its activities, the Council conducts hearings on vocational education, testifies before the Congress, confers with business and industrial representatives to examine potential vocational education needs, confers with a host of other agencies and groups, publishes reports periodically on timely issues and topics in vocational education, and, in general, speaks to issues and problems in vocational education.

State Advisory Councils

State Advisory Councils on Vocational Education, appointed by governors of their respective states, are charged with:

- Advising the State Board for Vocational Education on the development, and policy matters concerning the administration of, the state plan for vocational education
- Evaluating vocational education programs, services and activities
- Preparing and submitting annual evaluation reports through the State Board to the U. S. Commissioner of Education and to the National Advisory Council on Vocational Education

Although most councils make a valuable contribution in this regard, a few states have experienced difficulty, in that the councils have become directly involved in administration, rather than advising and consulting with state administrators of vocational education. The councils, as advisory bodies, have no legal administrative responsibility for programs. Activities of the state advisory councils have resulted in greater citizen involvement in vocational education and more active review of information crucial to program direction.

Comprehensive Program Planning in Vocational Education

15. *The Congress, by consolidating all the existing vocational education statutes, believed there would be better coordination and a strengthening of the capacity of the states to engage in the long-range planning which was required by the 1968 act. Consolidation would also encourage reorganization of state departments so that they would administer programs by function and purpose rather than by legislative title.*

An examination of annual and long-range plans for vocational education indicates that the states are improving their capability to engage in comprehensive planning. There are, however, inherent problems in doing so. Numerous pieces of federal and state legislation call for comprehensive planning to assure that the publics to be addressed by the different laws are given attention. Thus, there is overlap, duplication and sometimes outright competition among the various agencies to serve many of the same persons.

While the Vocational Education Amendments of 1968 do call for planning, there is no specific mandate for states to engage in comprehensive planning. And there are no funds appropriated specifically for this purpose. In addition, since many agencies are required by law to engage in planning, duplication of effort is inevitable. While improvements have been made, much remains to be done.

As a result of the 1968 Amendments, some state departments of vocational education have reorganized along functional lines to provide improved technical assistance for program development and management. This change has contributed to more effective planning.

Increased Use of Management Information Systems

Currently, 40 states are using some form of a computerized management information system for vocational education. Although the majority of states are using this technology, attempts to make these systems compatible have progressed slowly. There are problems inherent in requiring each state to use an identical data base system. However, if federal officials, working with leaders in vocational education in the states, could agree on the elements of data to be collected for both planning and evaluation purposes, a much clearer picture of vocational education would emerge.

A dictionary of clearly defined terms is critically needed to assure uniform reporting of data at the local, state and national level. Efforts are currently underway by a group of federal, state and private organizations to develop definitions acceptable to everyone involved. Standardized coding could be used to guarantee that large volumes of data are accurately kept to provide a true picture of the program.

A standardized management information system is imperative to assure consistency and reliability of data. Today, there is no way of determining nationally the cost per instructional hour for a given program, for example, or whether or not a given enrollment comprises an unduplicated head count. Although the U. S. Office of Education does require certain data to be

collected by the states, the definitions used for such collection are interpreted differently among the states. The lack of uniformity in data collection and reporting is a major hindrance in determining the impact of vocational education.

Accountability in Vocational Education

Since the mid 1960's, numerous studies, seminars, workshops and reports have addressed the need for improved accountability in vocational education. While most states have installed an accountability program, the federal government has yet to suggest a model which would assure that a uniform accountability system be used or even considered.

Like any other education program, vocational education should be evaluated against its stated objectives. Simultaneously, such factors as the following must be considered:

- Needs of the labor market
- Effectiveness of local advisory committees
- Availability of equipment and hardware for laboratory work
- Commitment of the school administration to such programs
- Expertise of teachers
- Extent to which vocational education graduates are placed in jobs and progress satisfactorily
- Federal, state and local policies which enhance or impede program offerings

Accountability for vocational education is a complex job which requires continuous attention.

While there is enough quantative evidence to suggest that vocational education programs have indeed been serving greater numbers of persons during the four-year period examined for this report, there is a dearth of qualitative evidence showing the extent to which programs have achieved "high quality" as specified in the Vocational Education Amendments of 1968. There is, however, enough information nationally to conclude that vocational educators are attempting to better service students and to broaden program options for both youth and adults.

REFERENCES

1. U. S. Office of Education, Report of the Panel of Consultants on Vocational Education, Education for a Changing World of Work (Washington: U. S. Government Printing Office, 1963), p. XVII.

2. R. Evans, G. Mangum and O. Pragan, Education for Employment: The Background and Potential of the 1968 Vocational Education Amendments, Policy Paper in Human Resources and Industrial Relations, No. 14 (Ann Arbor: The Institute of Labor and Industrial Relations, The University of Michigan, Wayne State University, 1969), p. 75.

3. U. S. Congress, Senate, Subcommittee on Education of the Committee on Labor and Public Welfare, Notes and Working Papers Concerning the Administration of Programs Authorized under the Vocational Education Act of 1963, As Amended, March, 1968, pp. 372-390.

4. U. S. Congress, House of Representatives, General Subcommittee on Education of the Committee on Education and Labor, Hearings, Partnership for Learning and Earning Act of 1968, 90th Cong., 2nd Sess., 1974, H.R. 15066.

5. Ibid.

6. U. S. Congress, House of Representatives, General Subcommittee on Education of the Committee on Education and Labor, Hearings on H.R. 16460, 90th Cong., 2nd Sess., 1974, Part I.

7. Ibid.

8. Ibid.

9. Ibid.

10. Ibid.

11. Ibid., p. 350.

12. Ibid., p. 353.

13. U. S. Congress, House of Representatives, Committee on Education and Labor, Vocational Education Amendments of 1968, Report No. 1547, July 8, 1968, p. 2-3.

14. U. S. Congress, Senate, Committee on Labor and Public Welfare, Vocational Education Amendments of 1968, Report No. 1386, 1968, p. 9.

15. Evans, Mangum and Pragan, p. 84.

16. House General Subcommittee on Education, Hearings on H.R. 16460, pp. 233-237.

17. Congressional Record, Debate on H.R. 18366, 90th Cong., July 15, 1968, pp. H6528-H6563.

18. Ibid.

19. Address by Representative Roman C. Pucinski, "Vocational Education--Keystone to Solving Unrest in America's Cities," Illinois Vocational Association, Chicago, Illinois, March 7, 1968.

20. Address by Senator Wayne Morse, "Education for Jobs in a Technological Society," American Vocational Association, Dallas, Texas, December 10, 1968.

21. Mary P. Allen, "Vast New Resources for Vocational Technical Education," American Vocational Journal, (November, 1968), p. 45.

22. Ibid.

23. Senate Committee on Labor and Public Welfare, Vocational Education Amendments of 1968, p. 3.

24. Senate Subcommittee on Education, Notes and Working Papers . . ., pp. 1, 14.

25. U. S. Comptroller General of the General Accounting Office, What is the Role of Federal Assistance for Vocational Education?, A Report to Congress (Washington: U. S. Department of Health, Education, and Welfare, Office of Education, 1974).

III

THE ROLE OF VOCATIONAL EDUCATION IN THE NATION'S CHANGING SOCIAL ORDER

This chapter describes the demographic, social and economic trends that promise to alter our society in the future. The discussion is an attempt to predict the potential impact of changing trends and values on vocational education and the role vocational education may assume in responding to a changing environment. The assumption made here is that institutions and values interact and may often reinforce one another.

In examining the role of vocational education in a changing social order, the chapter treats the pertinent issues raised by the following social concerns:

- Demographic trends and attributes
- Special groups
- Changes in industrial and occupational structure
- The concept of "post-industrial" society
- The concept of "no-growth" society
- Changes in the role of work in our society
- Changes in values and work behavior
- The relationship between education and work

The discussion of value systems later in the chapter may give some readers the impression that they are being presented with tenuous phenomena. Values have reality, however, inasmuch as they transcend private experience and observably influence our political, social and economic institutions.

DEMOGRAPHIC CHARACTERISTICS AND THE LABOR FORCE

In an article reviewing some of the determinants of the manpower prospect, Joseph J. Spengler, an economist and demographer, listed 11 sets of relevant influences affecting the demand and supply of labor as well as the extent of labor use. (1) Three of these influences--population growth, age structure, and spatial distribution of population--were demographic. Spengler's article was written in the 1960's. In the 1970's, we are more aware of including sex and ethnicity, especially race, to such a list, together with other demographic components.

Population Growth

The 1973 Manpower Report of the President contends that the most important demographic development of the past decade has been the change from a three-child to a two-child family average. (2) Using both a two-child and a three-child per family norm, the 1973 report predicted an increase in population and total labor force, 16 years and over, from 1960 to 2000. (3) However, the rate of increase in these projections, made by the staff of the Commission on Population Growth and the American Future, may be too high according to data now being released by the Bureau of the Census. In 1960, the United States had a population (16 years and over) of 121,817,000 and a labor force (16 years and over) of 72,142,000. In 1970, the respective figures were 142,366,000 and 85,903,000. Based upon a two-child norm, the total projected population (16 years and over) for 1980 to 2000 is as follows:

- 1980 - 167,127,000
- 1990 - 183,780,000
- 2000 - 201,969,000

The total labor force (16 years and over) projected for this period and based on a two-child norm is as follows:

- 1980 - 102,818,000
- 1990 - 114,153,000
- 2000 - 126,659,000

These figures indicate a population increase of 17 percent for each decade between 1960 and 1980, and an increase in the labor force of 19 percent during 1960-1970 and 20 percent between 1970-1980. The population increase for each of the decades between 1980 and 2000 is expected to be 11 percent. Thus, the population will grow, but at a slower rate, with labor force growth being slightly higher. (4) These estimates may have to be lowered if the trend observed in the first half of the 1970's continues.

Nevertheless, projected growth of both total population and labor force will be sufficiently impressive to require a careful examination of manpower policies and vocational education policies over years to come. Vocational education will have to deal with the needs of increasingly larger groups of elderly persons, ethnic minorities and women, along with the numerical increases anticipated in other segments of the working population.

Age Distribution

Over time, the population trends will affect the age distribution within the labor force and the total population. After 1985, significant changes in age distribution should become apparent, with fewer young workers entering the labor force. The large post-World War II influx of babies will have reached the prime of their working years. The average age of the population at the end

of the century is expected to be noticeably higher in comparison to the population of the 1970's. The labor force will probably show a more even distribution across age groupings. A population so composed should create the following social changes: (5)

- o Slower expansion of the educational system
- o Concentrated health care for the elderly
- o Reduced emphasis on the youth culture
- o Increased importance of service enterprises

Garth L. Mangum, a prominent student of manpower, has commented: (6)

> The first grader of the seventies is likely to retire from the labor force in the year 2029; the decade's first high school graduate will reach average retirement age in 2017; and the preschool youngster will be a potential worker until 2035. This does not mean that all education must be relevant to those years or that manpower requirements should be projected to those points for training to be useful. It does point to the need for the continuous availability of up-to-date education and training to keep people permanently employable.

In particular, new strains will be placed on educational and family institutions as the various age groups, each with a unique life style, are affected by this demographic reshuffling. A social scientist, E. L. Trist, points to the impact on parents of the prolongation of the educational process for adolescents and young adults. Added to this are the frustrations already felt by mature adults who perceive that their "good life" is threatened by the rising costs of helping to meet the needs of the young and of the underprivileged groups of society. (7)

The burden may be further intensified if the needs of older workers, especially those whose skills have become obsolete, are not adequately met by adult and continuing education programs.

Vocational education, in an effort to curb unemployment and underemployment, is mandated to provide out-of-school youth and adults with training, retraining and upgrading for new positions in the labor market. Although about 26 percent of total vocational enrollments comprise students in adult education courses, these programs have not expanded to the same extent as have those at the secondary and postsecondary level and thus reach only a very small percentage of the adult population. A wide range of rich and varied training opportunities has not been established.

In all probability, limited commitment of public funds is due to several factors. Firstly, adult education is non-compulsory; it falls outside the mainstream of traditional schooling. Secondly, the success of training and retraining programs is complicated by shifting economic conditions. Finally,

with the great emphasis placed on initial preparation of youth for the labor market, there has been only the dimmest recognition of the potential impact of adult and continuing education.

Given the supportive data on population trends, the grim specter of unemployment, the possibility of continual skill obsolescence and the growing numbers of women re-entering the work force, adult education should play an increasingly significant role in manpower development. Policies and planning for a full thrust in this direction are imperative. In addition, since learning is now viewed as a life-long activity, the scope of vocational education at the adult level should be expanded to provide not only ongoing basic education and training, but also enrichment necessary for a successful work and leisure life in an ever-changing society.

Spatial Distribution

A study of the spatial distribution of the population reveals the diverse demographic makeups and varying rates of economic expansion or contraction present in different localities. Some areas are labor force feeders for other areas; for example, the period prior to the 1970 census was characterized by rural to urban migration and movement from the central cities to the suburbs. Current census reports, however, incidate some reversal of the rural to urban trend. Part of this reversal is substantiated by the population decline of some central cities, the slowing movement to the suburbs and the growth of the rural-urban fringe beyond suburbia which sometimes serves as a connecting corridor between metropolitan regions. In addition, some small towns and cities are displaying renewed growth because of some component which has been added to their economic base.

The increased movement toward rural areas should be accompanied by increased attention to the special problems of vocational education delivery in rural areas. The continuation of this trend will necessitate the development of innovative vocational programs and/or the construction of facilities in sparsely populated regions not served by area schools.

On the whole, vocational education planners need to be aware of the dynamics of migration that affect population losses and gains as well as the causes of differential migration by various age, sex and socio-economic groupings. Basically, the existence of population mobility questions the relevance of training programs designed to meet only the labor market demands of local areas. Yet few localities can afford to offer in one setting a full range of occupational courses designed to prepare students for jobs and successful residence in any part of the country. Describing the parameters of vocational programs, with their relative significance at the local, state or national level, has been a difficult task in the field for some time. A national planning effort, augmented by federal funds aimed at creating parity throughout the United States, may resolve this complex problem.

Special Groups

Within the population, the disadvantaged and women have faced limited opportunities in education and the labor force. Because they typify basic disparities in our society, these groups represent a unique testing ground for education and training programs; by meeting the needs of women and minorities, the poor and the alienated, education will prove its effectiveness as a democratizing agent.

The Disadvantaged

Disadvantaged ethnic groups such as Blacks and Spanish-speaking Americans are breaking through the barriers of discrimination. The 1975 Manpower Report of the President states: (8)

> Over the past decade, Blacks have made considerable progress in their struggle to move upward on the ladder of occupational status. Although Blacks are still overrepresented relative to whites in the blue-collar and service occupations and underrepresented in the white-collar ranks, the disparity has been significantly reduced since 1964. Fewer than 1 out of 5 Blacks worked in white-collar occupations in 1964; 10 years later, however, about 1 in 3 Blacks had white-collar jobs. And gains were made within the professional and managerial ranks, as well as in clerical and sales.
>
> Even within the blue-collar group, where the proportion of Blacks remained relatively stable over the 1964-74 period, there was also a significant reduction in the proportion of Blacks in service occupations, particularly private household.
>
> . . . The occupational distribution of the 3.6 million employed persons of Hispanic origin is similar to that of Blacks in that they are concentrated in occupations characterized by high unemployment rates. However, proportionately more are employed in blue-collar and farm occupations, particularly in the higher skilled jobs within these groups.

Nevertheless, Blacks, who have long experienced an unemployment rate double that of the white population, have particularly suffered during the current recession. Moreover, the education and training programs designed to reduce unemployment among disadvantaged minorities have had, on the whole, partial success. In fact, despite increasing educational attainment, as measured by years in school, the disadvantaged seem to have as many problems in the 1970's as they experienced in the 1960's. Manpower programs have been responsive to this minority group in terms of identification of their needs and in attempts to meet a full range of those needs. Vocational education,

however, as pointed out in Chapter II, has experienced definitional and operational problems which have limited delivery through the schools.

The term "disadvantaged," as used in vocational education, has a unique meaning relative to all other federal usage. The "disadvantaged" in vocational education are defined in terms of their ability to succeed in a regular program. The law did not offer any standard definition of the ability required for success. Guidelines to define disadvantaged and to aid in identifying, classifying and serving the disadvantaged have been published by the U. S. Office of Education, but these recognize variability across states in their approaches to the disadvantaged. (9) One state may set the standard for success in a regular program as the capacity to achieve a score of 80 on a standardized test while another state may set the standard at 50 for the same test; another may use a different test. From state to state, reports reflect quite different results in terms of numbers served and other evaluative measurements. (10)

Elsewhere in federal legislation, the disadvantaged are described basically in economic terms, first of all being poor, and secondly, holding membership in a high unemployment or otherwise economically limited group. Because manpower programs have dealt mostly with the unemployed or underemployed who are not in school, they have found their definition of disadvantaged useful in directing the bulk of their resources to a target population in which there have been more clients to serve than resources have allowed.

The disadvantaged are also characterized by low educational achievement, having dropped out of school or having performed below average in the school environment. Many have poor work histories and few or no job skills; they often have motivational problems resulting from their poor antecedent circumstances.

Manpower programs initially attempted to provide skill training in short, intensive programs designed for early entrance into the working world. Program initiators soon learned that in order to train many of this group effectively, they would also have to provide remedial education, intensive vocational and personal counseling, many "supportive" social services and job development and placement services. Manpower programs became a large laboratory experiment in reaching, serving and moving disadvantaged persons into better economic circumstances through placement in meaningful jobs. While needed services have been identified, success in the delivery of these services has been difficult to assess.

The problems are compounded in a dual labor market: (11)

- The primary labor market requires considerable skill and offers opportunities for upward mobility
- The secondary labor market is composed of low-wage, entry-type jobs, with little potential for upward mobility

It has been a formidable task to make stable job placements, particularly with the limitations posed by the secondary labor market. Much remains to be known

about the attributes and dynamics of the dual labor market and about possible approaches to transition from the secondary to the primary.

Serving the disadvantaged underlies the "people-centered" approach which has been the guiding light of vocational education in the last decade. Yet, vocational education has not fully addressed the complex issues and problems associated with meeting the needs of the disadvantaged in the high schools. Even if administrative and operational problems were resolved, it is questionable whether vocational education should be solely responsible for training in-school disadvantaged youth. Notwithstanding the fact that vocational education and manpower programs have a different focus, both programs have much to gain through greater cooperation and coordination. A comprehensive policy on human resources development would doubtlessly improve service to the disadvantaged.

Emerging Role of Women

An important question that vocational educators must ask concerns the responsiveness of vocational education to the needs and demands of women in today's and tomorrow's work world. The expansion of the female labor force reflects a considerable increase in the female adult population and the greater proclivity among women to seek employment outside the home. Several factors encourage the development of this trend:

- Higher educational attainment and rising aspirations
- The need for more income
- Smaller family size
- The availability of more of the goods and services that free women to engage in activities outside the home

In addition, media coverage has undoubtedly raised our awareness of, and sensitivity to, women's needs.

Traditionally, women have been employed in either clerical, sales and personal services jobs or in the teaching and nursing professions. Despite limited occupational opportunities, the female labor force nearly doubled in size between 1947 and 1971, from 16.7 million to 32 million. Prior to 1960, the growth of the female work force was largely due to the entry of middle-aged women. However, since 1960, an increasing percentage of women under 25 have been entering employment. (12)

Although single women have higher labor force participation rates, a large percentage of working women are married. Where once women were able to drop out when they married or when the husband's income exceeded $10,000 per year, they are now maintaining jobs. More noticeable are the growing numbers of working women with pre-school or school-age children at home. At the present rate, women should reach approximate parity with male labor market participation by, or possibly before, the end of the century. (13)

Reorientation throughout the educational system and in vocational education is therefore becoming imperative. Simultaneously, changes in employment practices must be forthcoming.

Available evidence shows that women have not had the same opportunities for education and training; they have not earned as much as men, even for the same work; and they have suffered greater unemployment rates in times of recession. Part of the earnings differential is attributed to the fact that employment for women is punctuated by periods of bearing and rearing children. Since their labor force entry is often delayed until children are in school, women lose opportunities to gain seniority or to advance in positions and earnings.

Many women hold low-paying, dead-end jobs which afford few possibilities for advancement. As workers, women are still considered supplemental wage earners even when their income is vital to family survival. In fact, one out of eight families is headed by a woman. In 1971, two-thirds of these families had two or more children under 18 years of age. Median income for these families was only one half that of male-headed households. (14)

Despite this alarming phenomenon, higher paying white-collar jobs have not been widely available to most women; their career opportunities have been limited to traditionally female occupations. As a result of sex-role stereotyping in the labor market, particularly in employer hiring and promotion practices, women have been relegated to, and satisfied to fill, subordinate positions. However, economic necessity poses a challenge to women's conventional role. In addition, higher educational attainment has increased women's desire to use their full abilities, both for income and for psychic rewards. Anti-discrimination laws should further support the entry of women into a wide range of occupations which afford advancement and career satisfaction.

The Equal Pay Act of 1963 was an early step toward equalized earnings for equivalent jobs. The federal courts contributed to the effectiveness of the legislation by adding that proof of the "substantial equality" of jobs was sufficient to claim equal pay. Successive amendments have strengthened and expanded the coverage of this Act.

Title VII of the Civil Rights Act of 1964 established an Equal Employment Opportunity Commission with some enforcement powers (which were increased in scope by the Equal Employment Opportunity Act of 1972) to assure equal status for women at work. Acting under Presidential Executive Orders, the Department of Labor's Office of Federal Contract Compliance requires affirmative action programs from government supply and service contractors having 50 or more employees and contracts of $50,000 or more. Such plans must include analyses of areas in which the contractor is deficient in providing equal opportunities for women.

The Department of Labor has taken a strong stand in support of programs to open apprenticeships to women, to train women for non-stereotyped jobs and to help college-trained minority women in particular to enter professional, managerial and technical jobs.

Positive trends appear in the 1970's. The 1973 Current Population Survey shows 561,000 women employed as craft workers (about four percent of the total) compared with only 277,140 in 1960 and 484,000 in 1970. Vocational school enrollments for 1972 include 33,006 women in technical programs, up from 22,890 in 1966-1967. The increase was greater for women enrolled in trade and industrial training courses, rising from 155,808 in 1966-1967 to 279,680 in 1972. (15)

Although women in vocational education are enrolling in nontraditional training programs in increasing numbers, females still represent a majority in only 33 wage-earning courses; in fact, 25 percent are enrolled in homemaking. The recently released Title IX guidelines aimed at eliminating sex-role stereotyping in secondary vocational programs traditionally limited to one sex must be enforced in order to open up a greater variety of programs to women--and men.

As a whole, educational, training and employment practices require much more modification and innovation. Additional problems are posed in providing for child care when parents are at work or school. The need is recognized for more experimentation with part-time and flexi-time working arrangements to effect a better balance between market and non-market work.

The Military

The social, economic and political impact of the ending of our involvement in Vietnam can hardly be overstated. For a decade, we were reminded from day to day of the terrible cost of this involvement. And we know today that the cost will continue to be borne by most Americans for years to come.

The Vietnam War produced more than 9,000,000 veterans before it ended. Because it extended over so many years, the flow of manpower into and out of the services was probably not viewed as disruptive in civilian labor market terms. By 1970, however, a higher unemployment rate for veterans was being noted, and a "Jobs for Veterans" initiative was announced by the President. Heightened awareness of the employment problems of veterans, as well as the employment potential of veterans, resulted in the absorbtion of 6,500,000 veterans by the labor market and education and training institutions by mid-1973 and a veteran's unemployment rate below that of non-veterans by the end of that year. (16) The number of veterans receiving educational benefits through the GI Bill of Rights continued to grow steadily throughout the first half of the 1970's.

The All Volunteer Force

In January, 1973, five months ahead of schedule, Secretary of Defense Laird announced the suspension of the military draft. This significant change in our approach to military manpower procurement contains implications for the military, certainly, and for the labor market, our education and training system and our students as well. For young men, education and career planning must no longer include the prospect of involuntary military service. Consequently, decisions to embark upon higher education or start families in order to obtain deferments from military service need no longer be made. Schools

can no longer count on the draft to motivate entry into or continuation in programs. Students who might have delayed their entry into the labor market must no longer do so.

On the military side, steps have been taken to ensure that voluntary military service is attractive to enough of the young men and women in schools and in the labor force to meet our defense manpower requirements. Military service branches have become competitors for manpower in the free labor market, with improved remuneration and better working and living conditions. In response to increased interest in the education community concerning the accurate portrayal of opportunities in the military, the Department of Defense has sponsored studies and programs to encourage the integration of military occupations into career education in the schools. Helping students make well-founded, informed choices between civilian and military working environments is the objective of these efforts. In addition, efforts such as those begun by the Aerospace Education Foundation (an affiliate of the Air Force Association), aimed at adapting military instructional programs for public school use, at great cost savings to the schools, are continuing.

The GI Bill

Recently, Congressional attention has been turned to the discontinuation of a long-standing linkage between the military and the nation's education system: the GI Bill. This prospect raises serious questions among educators concerning the success of the All Volunteer Force in the absence of this valuable educational benefit. It also raises questions concerning the ability of many veterans to continue their education. (17) Because the decision will affect hundreds of thousands of persons each year, the possible discontinuation of the GI Bill must be considered a factor in vocational education planning, especially at the postsecondary and adult levels.

THE CHANGING INDUSTRIAL AND OCCUPATIONAL STRUCTURE

Analyses of trends in the industrial structure of communities are needed by vocational education personnel for effective planning. For 11 Standard Metropolitan Statistical Areas with populations of 2,000,000 to 4,500,000, an examination of industrial payrolls showed a total rise in the number of non-agricultural employees between 1965 and 1969. The data further indicate that metropolitan communities with a relatively high percentage of their work force engaged in manufacturing had the slowest rate of employment gain between 1965 and 1969. (18) However, because of its very large base in this country, manufacturing will continue to employ large numbers of workers.

The industrial composition of the nation today shows more workers involved in service than in goods-producing industries. Jobs continue to grow in the direction of service activities, with growth variations appearing in different service industry divisions. (19)

Service Industries

Trade, both wholesale and retail, constitutes the largest sector within the service industries, employing approximately 15.7 million workers in 1972. From 1960 to 1972, this industrial category acquired about 38 percent more workers. Yet, this work force is estimated to grow by about 26 percent from 1972 to 1985. This slower rate of growth is linked partially to new technology (automation) and to the increasing use of self-service stores and vending machines. (20) Distributive education, its content and philosophy, must remain current with these trends. The school-work cooperative approach so stressed in distributive education should aid in making the learning experience in this area contemporaneous.

The growth of government services, especially state and local services in the realm of education, health, welfare, sanitation and protection, was clearly manifest between the years 1960 and 1972. Employment in these areas rose by almost 60 percent, from 8.4 million workers to 13.3 million. It is estimated that from 1972 to 1985 federal employment will increase from 2.7 to 2.8 million employees, while state and local government employment will rise from 10.6 to 16 million during the same period. (21) However, the percentage of these positions that will utilize the kinds of skills which vocational education can supply is difficult to ascertain at the present time.

In the 1980's areas such as maintenance and repair, advertising and health care are expected to continue the rapid rise begun a generation before. It is estimated that "more than half again as many workers are expected to be employed in this industry division in 1985 as in 1972." (22) Business services such as accounting, data processing and maintenance should grow at a relatively rapid pace.

Segments of the transportation and public utility sector have experienced varying rates of growth. Overall growth was slow between 1960 and 1972, and this sector is expected to follow a similar trend between 1972 and 1985. From approximately 4.5 million workers in 1972, a level of almost 5.2 million should be reached by the middle of the 1980's. These estimates are based on an expected increase in employment in air transportation, a decline in railroad employment and no real change in water transportation employment. (23)

While finance, insurance and real estate constitute the smallest sector within the service industries, a good rate of growth is anticipated.

A summary of major employment trends in the service industries for the 1960-1972 period, and estimated trends for the 1972-1985 period, is shown in Table 11 on the following page. (24)

The 1974-1975 edition of the Occupational Outlook Handbook issued by the Bureau of Labor Statistics regarding jobs likely to be available in the 1980's, assumes that: (25)

- High levels of employment and manpower utilization will exist
- No major event such as a long-lasting or high-magnitude crisis will occur

Table 11

Employment and Projected Employment in Service Industries: 1960, 1972 and 1985

Service Sector	Number Employed (in millions) 1960	1972	Projected in 1985	Percent Increase 1960-72	Projected Percent Increase 1972-85
Trade	11.4	15.7	19.8	38%	26%
Government	8.4	13.3	18.8	60%	42%
Transportation and Public Utilities	4.0	4.5	5.2	10%	15%
Finance, Insurance, and Real Estate	2.7	3.9	5.6	47%	42%
Miscellaneous Services Including Health	7.4	12.3	18.5	66%	50%

Source: U. S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 1974-1975.

- Social, educational and economic trends will continue unchanged
- Science and technology will continue their same rate of growth
- The military budget will remain high without the nation being at war

Goods-Producing Industries

The goods-producing industries include agriculture, manufacturing, contract construction and mining. Productivity in these industries has increased because of advances in technology, automation and the improved skills of the workers. In general, the goods-producing segment of the economy has experienced a slow increase in employment in recent years, with variance in employment growth across its different sectors.

Whether the past decline in mining employment will continue is debatable in view of new demands being placed on the energy sources of the nation.

Both contract construction and manufacturing are expected to grow during the next decade, although employment in the manufacture of durable goods is projected to advance at a somewhat faster rate than in nondurable goods. Estimated trends in the goods-producing sectors of the economy are shown in Table 12. (26) These estimates are based on the assumption that the economy will not be faced with any serious crisis. For this reason, projections for agriculture also are subject to debate.

Table 12

Employment and Projected Employment in Goods-Producing Industries: 1960, 1972 and 1985

Goods-Producing Sector	Number Employed (in millions) 1960	1972	Projected in 1985	Percent Increase 1960-72	Projected Percent Increase 1972-85
Agriculture	5.5	3.5	1.9	-37%	-45%
Mining	0.7	0.6	0.6	-15%	0%
Contract Construction	2.9	3.5	4.3	20%	20%
Manufacturing	16.7	18.9	23.2	13%	23%

Source: U. S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 1974-1975.

According to the Occupational Outlook Handbook, traditional agricultural employment is expected to decline, with increases in productivity being tied to:

- Enlargement of farms
- Improved technology through mechanization
- More effective fertilizers, feeds and pesticides

Yet, in the early 1970's, it became clear that rapid world population growth would place increasing demands on American agriculture. With population growth exceeding the abilities of overseas nations to produce sufficient food, the United States has been called upon more frequently to provide needed staples.

Over the years, our ability to meet and greatly exceed our own agricultural requirements was due to a number of factors, including the presence of substantial fertile acreage, mechanization, control of crop diseases and pests

and an educated farm population able to apply new technology as it became available. We have also had government support programs of many kinds designed to ensure the solvency, and the viability, of the agricultural sector.

Productivity has been the key to our successful agricultural efforts. Data reported by the National Commission on Productivity and Work Quality indicate that between 1947 and 1974 farm output per man-hour increased an average 5.9 percent per year. Between 1970 and 1974, it increased an average 2.85 percent per year. (27) The introduction of controls on the use of chemicals in agriculture has raised some concern about continued productivity within the agriculture community. However, it is very difficult to project the effect environmental protection measures will have on productivity.

While the steady increase in productivity over the past three decades is a tribute to our agricultural community, it is clear at this time that vocational agriculture is entering a period of great challenge. Because most agricultural land is already in use, we will be testing the limits of productivity as never before and seeking new ways to expand the agricultural sector. For the farmer as entrepreneur, management will become more complex. It is clear that "traditional" vocational agriculture must embrace a number of new scientific disciplines if the range of skills needed to meet the challenge to our increasingly important agricultural sector are to be developed.

For goods-producing industries as a whole, another publication of the Bureau of Labor Statistics contains estimates of employment to 1985 that differ somewhat from those in the Occupational Outlook Handbook, but, as shown in Table 13, the trends are relatively similar. However, a different set of assumptions underlie the alternative projections which are utilized in this bulletin: (28)

- Spiraling inflation
- Continuing recession
- High unemployment
- The ongoing "energy crisis"

Only certain kinds and amounts of work activity are essential for the nation's survival. Beyond this essential minimum, choices of work activity become discretionary, or a matter of political policy. Thus, people may choose to engage in such activities as the space program, or decline to enter certain occupations, as illustrated by the increase in numbers of workers not willing to accept low income and low status jobs. (29)

Vocational and technical education planners at all levels must remain abreast of both growth and decline in service enterprises and goods-producing activities if misdirection is to be avoided. Ongoing and systematic analysis of industrial and occupational trends is required, along with objective appraisals of broad economic conditions affecting the nation.

Table 13

Total Employment (Counting Jobs Rather Than Workers) Major Sector: 1955, 1968, 1972, and Projected for 1980 and 1985

Sector	Thousands of Jobs					Average Annual Rates of Change[1]		
				Projected			Projected	
	1955	1968	1972	1980	1985	1955-1968	1968-1980	1980-1985
Total	65,745	80,926	85,597	101,576	107,609	1.6%	1.9%	1.2%
Government[2]	6,914	11,845	13,290	16,610	18,800	4.2%	2.9%	2.5%
Total Private	58,831	69,081	72,307	84,965	88,809	1.2%	1.7%	.9%
Agriculture	6,434	3,816	3,450	2,300	1,900	-3.9%	-4.1%	-3.7%
Nonagriculture	52,397	65,265	68,857	82,666	86,909	1.7%	2.0%	1.0%
Mining	832	640	645	655	632	-2.0%	.2%	-.7%
Construction	3,582	4,038	4,352	4,908	5,184	.9%	1.6%	1.1%
Manufacturing	17,309	20,138	19,281	22,923	23,499	1.2%	1.1%	.5%
Durable	9,782	11,828	11,091	13,629	14,154	1.5%	1.2%	.8%
Nondurable	7,527	8,310	8,190	9,294	9,345	.8%	.9%	.1%
Transportation, Communication, & Public Utilities	4,353	4,519	4,726	5,321	5,368	.3%	1.4%	.2%
Transportation	2,918	2,868	2,842	3,250	3,266	-.1%	1.0%	.1%
Communication	832	986	1,150	1,300	1,312	1.3%	2.3%	.2%
Public Utilities	603	665	734	771	790	.8%	1.2%	.5%
Trade	13,201	16,655	18,432	21,695	22,381	1.8%	2.2%	.6%
Wholesale	3,063	3,894	4,235	4,946	5,123	1.9%	2.0%	.7%
Retail	10,138	12,761	14,197	16,749	17,258	1.8%	2.3%	.6%
Finance, Insurance, & Real Estate	2,652	3,720	4,303	5,349	5,932	2.6%	3.1%	2.1%
Other Services[3]	10,468	15,555	17,118	21,815	23,913	3.1%	2.9%	1.9%

[1]Compound interest rates between terminal years.
[2]Government employment used here is the Bureau of Labor Statistics concept.
[3]Includes paid household employment.

NOTE: Employment on a job concept includes wage and salary workers, self-employed, and unpaid family workers. A job count is different from a person count of employment because, in a job count, persons holding more than one job are counted more than once.

Source: Bureau of Labor Statistics

The Economy

The past five years have been an economically turbulent period in which many Americans have lost faith in the capacity of the economy to expand, provide jobs and a resonably good standard of living.

The 1970's began with a recessive economy that remained sluggish through 1972. By 1973, the unemployment rate returned to less than five percent. Therefore, ". . . 1973 was a good year for manpower, the average number of employed persons rose at a record pace, and joblessness declined substantially during the first 10 months of the year before turning upward again in November." (30) However, the 1974 Manpower Report acknowledged the fact that increases in business investment and consumer expenditures and sharp expansion in exports were major factors accounting for this improvement, achieving not only the largest increase annually in the labor force since 1955, but also absorbing 600,000 more new entrants than could have been expected. This increase is attributed to the influx of women and youth. (31)

Following this brief reprieve, unemployment began to reach new highs, a crisis which sparked the federal government toward tentative action. A new Emergency Jobs and Unemployment Assistance Act, which became a new Title VI in CETA, received $875 million to stimulate public service jobs, giving preference to experienced workers who had exhausted unemployment compensation. The vocational education legislation in force at this time was concerned with relief of unemployment, particularly among young persons; reduction of underemployment and skill shortages; displacement of workers by automation; a sharp shift from a manufacturing to a service-based economy; and other concerns associated with problems of unemployed and underemployed persons. Although there is a basic commonality in interests among manpower specialists and vocational educators, the difference in orientation has stood in the way of a full joint effort to utilize education as a tool to alleviate social, economic and political problems.

The Energy Crisis

By 1974, inflation was a most serious problem, coupled as it was with the worst recession since the Great Depression of the 1930's. Compounding both was the energy crisis induced by an oil embargo imposed by the major oil producing and exporting countries (OPEC). When the embargo was lifted, there was a drastic increase in the price of oil. Both jobs and inflation were affected. This serves as a dramatic illustration of the fact that the demand side of the labor market finds it difficult to respond to forces which the supply side, concerned with the quality of occupational preparation, is not equipped to handle. Energy issues may represent new, long-run and highly variable forces with which the economy must contend in the future.

The strategy for maintaining a reserve of oil in the United States, and for importing no more than 25 percent of the oil needed in this country by the year 1985, depends upon conservation of use and generation of new energy sources. Generating new sources means a massive investment in research and field exploration. Development for on-line production means even more investment and years-long lead time.

Significant cutback in consumption calls for a major reliance on some form of allocation and rationing control or the imposition of import tariffs and decontrol of prices of domestic crude oil and other sources of energy. In any event, these decisions will influence the course of economic recovery and growth. The future appears to offer exciting possibilities: increased demands for many workers and the creation of new classes of technical positions.

Nuclear power development in the United States has lagged. Its rapid expansion now seems feasible and at least the way to go until, or unless, technical breakthroughs are made in solar or geothermal energy. Projections of manpower needs are only beginning to get underway, but it would seem that thousands of workers will be required in the many new nuclear plants now being contemplated, as well as in industries where there is high energy use. In manpower demand, there appears to be potential for major expansion, at least until the end of the 20th century. It is quite possible, however, that this expansion will be satisfied by workers shifting from fields which are being impacted by the development of this new power source.

While the energy crisis may create new and different job opportunities and new demands for occupational training, ecological concerns, on the other hand, pose an entirely different set of demands. Vocational education may witness an ideological conflict between those who are working to preserve the environment and conserve its resources, thus limiting growth, and those who seek continued progress and expansion by creating new energy sources, no matter the danger. Vocational education may be preparing some students to work in nuclear plants and others for employment in air quality and pollution control--and both will be expedient and necessary.

The complexity of today's economic problems admit to no easy solutions, but major value judgments affecting directions will be either made as deliberate choices or by default. This will profoundly affect the nature of economic development and, therefore, the nature of education and training required.

ESTIMATES OF IMPACT ON OCCUPATIONS

In translating general economic trends into estimates of impact on various occupations, there is good evidence that the shift to white-collar jobs that first became obvious in the 1950's will continue. Thus, the 1974-1975 edition of the Occupational Outlook Handbook states: (32)

> In 1956, for the first time in the nation's history, white collar workers--professional, managerial, clerical, and sales--outnumbered blue collar workers--craftsmen, operatives, and laborers.
>
> Through the 1970's we can expect a continuation of the rapid growth of white collar occupations, a slower-than-average growth of blue collar occupations, a faster-than-average growth among service workers, and a further decline of farm workers.

Overall, between 1972 and 1980, numbers of jobs are expected to increase by about two million a year, while between 1980 and 1985 the rate of increase is expected to drop to 1.2 million new job openings each year. (33) There will probably be fewer workers entering the labor force during this period; as a result, newcomers to the labor market may encounter less difficulty in obtaining employment. As the baby boom cohort of the 1950's moves through successive age levels, large-scale variations in the relative numbers of workers at different stages in their careers will result and problems of labor market adjustment will persist. (34) Thus, during the 1970's, an increase in the number of younger workers with noticeably higher educational levels, coupled with the existence of large numbers of educationally disadvantaged workers, will intensify the need to improve vocational training procedures and mechanisms for balancing job supply and demand. (35) New work rules that are less restrictive may develop as jobs are upgraded, but ". . . productivity and profit constraints will discourage sweeping restructuring of jobs," especially in the production of goods. (36)

While total employment is expected to increase by approximately 24 percent between 1972 to 1985, white-collar occupations are expected to rise by 37 percent and blue-collar occupations by only 15 percent. (37) A more detailed breakdown by occupational category, current employment and estimated percentage growth between 1972 and 1985 appears in Table 14.

Table 14

Estimated Growth in Employment by Occupational Category: 1972-1985

Occupational Category	Approximate Number in 1972 (in millions)	Estimated Percentage Growth 1972-1985
Professional and Technical	11.5	49%
Managers, Officials and Proprietors	8.0	30%
Clerical	14.2	39%
Sales Workers	5.4	20%
Craftsmen	10.8	20%
Operatives (semi-skilled)	13.5	13%
Laborers (non-farm)	4.2	Slight
Service Workers	11.0	22%
Farm Workers	3.1	-48%

Source: U. S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 1974-1975.

Growth Rate and Replacement Rate

The latest Occupational Outlook Handbook suggests that between 1972 and 1985 more jobs will develop due to the need for worker replacements stemming from deaths, retirements and other separations from the labor force than due to growth rate. In the years ahead, certain slow growth occupations comprised of large numbers of workers may, due to their extensive numerical base, evince a replacement need far exceeding occupations with high growth potential but fewer numbers of workers.

Obviously, occupational training is especially important for growth jobs with high replacement needs. The growth occupations generally include professional, technical and clerical positions. The largest replacement requirements are in clerical fields, where women workers often experience relatively high job turnover. Because of the high growth rate, however, the actual number of professional and technical workers needed between 1972 and 1985 is estimated to be higher than that of clerical workers (despite the latter's higher replacement rate). Non-farm laborers and farm workers may expect the smallest numerical growth during the indicated period, with the latter projecting a negative replacement need. (38)

The amount of training required varies considerably among occupations and becomes an important factor in policy making. Effective vocational planning should involve analysis of the following:

- Current and future manpower demands
- The desired mix of workers (to equalize opportunities for disadvantaged groups)
- The potential growth and replacement which may occur based upon various alternatives that may exist
- The cost factors related to the amount of training required

Vocational educators need to develop a broader perspective in allocating resources. There are new, glamorous, yet numerically small and sometimes strategically unimportant, occupations; and those that are established, slow or declining, yet basic and widespread. Realistic assessments must be made of the value of all kinds of training programs.

The interrelationships among occupations must be more thoroughly understood, for jobs do not exist en vacuo. For example, one of the problems that technicians operating as paraprofessionals face on the job is that of autonomy. Paraprofessionals usually deal with the more routinized facets of work; yet, they may be called upon to perform professional duties. Despite this overlap, paraprofessionals have few real opportunities for advancement unless they obtain advanced technical training or a college degree in the profession. (39) Career-minded students must be made aware of occupational dead ends as well as opportunities.

POST-INDUSTRIALISM AND THE "NO-GROWTH" SOCIETY

In the opinion of a number of prominent social scientists, two major trends, post-industrialism and the "no-growth" society, are expected to have a dramatic effect on the United States and other technologically advanced societies. The "post-industrial" society is already a reality. The "no-growth" or "steady state" society, characterized by zero population growth and slow economic expansion, exists in theory. Its inevitability is predicated on the depletion of natural resources and the enormous costs of ecological imbalance.

The Post-Industrial Society

Daniel Bell, a Harvard sociologist, is probably the best known explicator of the nature of the post-industrial society. The five major dimensions of post-industrialism, according to Bell, are as follows: (40)

1. Change from a goods-producing to a service economy, dominated by skilled professional and business services, requires longer years of education and/or training of workers.

2. The professional and technical classes assume a pre-eminent role in providing advice and counsel. The general society becomes increasingly dependent on technical experts.

3. The centrality of theoretical knowledge as the source of innovation and policy formulation for the society is the "axial principle" of the post-industrial society. It involves a transition from an exploitation of labor to an increasing exploitation of knowledge. Basic research now constitutes the foundation for science-based industries in the nation. Even governmental policy decisions are influenced by theoretical and research questions in the social sciences.

4. Control of technology and technological assessment is needed to avoid undesirable effects, to promote desired goals and to develop alternatives if necessary.

5. A new intellectual technology is being created by advances in the decision processes, including linear modeling, simulations and optimum decision programming. This new intellectual technology provides a rational way of ordering many variables that must be considered in complex decision making.

The concept of the post-industrial society has its critics, but the attributes which Bell describes are certainly visible, even if they are

not as dominant as he contends. We should now examine the implications of the post-industrial concept for vocational education.

Post-Industrialism and Vocational Education

Richard A. Holland, in an unpublished paper entitled An Indexing of Metropolitan Post-Industrialism, states that "the transition to post-industrialism means a growing, technically-skilled work force. At the vanguard of this work force are growing numbers of professionals, and implied is the acquisition of new values and beliefs mediated through education and training in scientific method." (41)

Some vocational educators acknowledge that the current focus in most vocational education programs is on saleability and transferability of specific applied skills, but that in the years to come the emphasis is likely to change as the more saleable skills become the more theoretical ones. A new training approach would be consistent with the changing needs of many industries in the years ahead. British social scientist, E. L. Trist, notes that today's "learning force," made up of those persons in formative and in continuing education, outnumbers our labor force. One reason for this phenomenon is that career lines are changing from single to serial occupations and workers are finding that their ". . . initial occupation is unlikely to last out a working life." (42) These observations point to the need to train for entry-level occupations and at the same time provide a basis for continuing vocational education. (43) With broader-based training, including the cluster approach, career ladders and coping skills, individuals may be better prepared to adapt to cyclical unemployment and changing skill requirements.

Vocational educators should be mindful that job requirements for certain technical and other workers may not be upgraded, despite the increasing complexity of the work environment in a technological society. Whether employees are to operate under a "professional" model or a "bureaucratic" model is a very important determinant of the kind and amount of knowledge they must have. The "professional" model requires the worker to function minimally as a generalized expert in his area of competence, and as such he must have considerable training. The "bureaucratic" model stresses division of labor or job fractionalization, to the point that each worker needs only limited knowledge to accomplish highly specified tasks. Identification of the model used most widely in a given occupation should help determine the type of education and training required. For example, cognitive skills are especially appropriate for the "professional" model, while manipulative skills are more suited to the "bureaucratic" model. America's industrial order shows tendencies to operate in both directions, creating a fundamental difficulty for vocational educators attempting to train persons to qualify for positions in the job market. One approach requires a real upgrading of skills; the other simplifies the acquisition of skills through a reduction in the amount of training needed. What happens to the quality of training and work resulting from the exclusive adoption of either of these models is an important question.

The "No-Growth" Society

Daedalus, the journal of the American Academy of Arts and Sciences, devoted the entire Fall 1973 issue to the topic of the "no-growth" society. Such a society would be characterized by something approaching zero economic growth and zero population growth. These characteristics are directly counter to contemporary society's devotion to growth and progress. The "no-growth" society is based on the theory that there is a limit to the number of people who can be sustained by known available resources. Furthermore, ". . . if the exponential growth in the material output of the economy continues, there must be an enormous increase either in pollution or in recycling or in both." (44) True zero population growth is not expected to occur until the middle of the next century. For the remainder of this century, a noticeable rise in the population is expected, even with a lower birth rate, since there will be more people in their reproductive years. We are already experiencing some of the environmental and population adjustments that may become more accentuated in the future.

There may be fewer opportunities for promotion as the labor force grows older, and more attention will have to be paid to continuous training and retraining of the labor force. The economic system will have to become more sensitive to environmental concerns, and new occupations should develop requiring many different kinds of environmental technicians. Finally, the declining birth rate should increase the training needs of women in the work force.

Vocational, technical and adult education should have an important role in meeting these training needs. However, the task will require greater flexibility and breadth in programs and curricula throughout the vocational education continuum.

The Changing Role of Work

The long-range trend in productivity is expected to continue upward, although at a less accelerated rate. If the predicted lower rate of increase in productivity still exceeds the predicted lower rate of increase in population, there is the possibility that American society will enjoy a higher standard of living. More people may become less dependent on jobs for their support and may choose activities other than full-time employment. "As wages rise, absenteeism and intermittent job holding will become feasible," (45) particularly for individuals without dependents. Wages must, of course, keep ahead of inflation if more flexible working arrangements are to become a reality.

A guaranteed income plan will make unwanted work less acceptable. Government income transfers (deferments of work income) through programs such as welfare, food stamps, unemployment insurance and workmen's compensation cut down on the requirement for steady work. In the 1970's transfers comprised 11 percent of the personal income in this country, compared to six percent in 1950. Pensions constitute the largest government income transfer. Other types of transfers, such as government subsidies to industry and agriculture, are not considered here, but they also have their direct and indirect effects on work behavior. (46) It should be noted that even with

increased transfers, the labor force actually continues to engage almost the same total percentage of the population; this is at least partly due to the rise in the percentage of women joining the labor force. (47)

It may be possible for the nation to maintain an adequate level of productivity and at the same time witness greater underemployment. Yet, given the possibility of a higher standard of living, along with changing attitudes toward work, underemployment may not pose the serious problems currently envisioned if vocational educators are able to give students broad and realistic preparation for a world in which jobs may not be the central focus of adult life.

Changing Values and Work Behavior

E. L. Trist has developed some provocative perspectives on the kinds of values workers are likely to have in a developing post-industrial society. To Trist, there is a movement from succession to simultaneity. "Formerly a person went to school; then worked; then retired. Learning, working, and leisure were successive. Now, more and more people are living a life of learning, working, and leisure at the same time." (48)

Proportionately fewer workers are staying at their jobs on a permanent basis. "Formerly, the advantages seemed to follow from getting one's self built in; now the disadvantages seem to grow from being locked in. A major need in the oncoming decades is to maintain one's capacity for mobility." (49) Coupled with this is a trend away from owning toward leasing and renting homes, a strategy which gives people greater flexibility in adjusting to changing conditions. In addition, more people are spending their time on their own priorities; they are more willing to purchase services that facilitate th[illegible] and less eager to encumber themselves with goods that may interfere. (50)

In fact, we are witnessing the emergence of a broader definition of work, one which transcends the conventional habit of equating work with a job to include all productive and creative activities which contribute to human growth. Widespread acceptance of this concept will depend on the evolution of our social institutions. Certainly, changes in the work ethic will have an impact on:

- Jobs
- The educational process, including vocational education
- A growing service-based economy

Labor economist Sar Levitan and his colleagues contend that the important changes occurring in work attitudes are more related to the qualitative aspects of work, including opportunities, responsibilities and freedom on the job. Income is becoming less an important factor in securing work discipline. "If economic prosperity and growth are sustained, the work ethic is likely to weaken as a generation of workers that has experienced nothing but relative affluence and job security takes its place." (51)

The Youth Movement

During the late 1960's, the "youth movement," the "youth culture" or the "counter culture" captured wide public attention through their intense protests against the Vietnam War and the political and economic system which supported that War. Today, some of their values have been "co-opted" by the system and their lifestyle and tastes absorbed into popular culture.

The concerns of the "counter culture" have centered on poverty and social injustice, hypocrisy in government and business, threats to our environment and threats to personal freedom, problems that have been highly visible over the past several years. In addition, many young people have rejected traditional values in regard to home and family, education and work. As a reaction against the materialism of our society, many young men and women are engaged in social activism or are exploring paths toward self awareness and self expression. For example, there has been a renewed interest in working with one's hands, in natural materials.

It is difficult to project whether, and in what form, the youth culture will continue through the 1970's and beyond. In 1970, Charles Reich, a teacher at the Yale University Law School, wrote that "the revolution of the new generation . . . is both necessary and inevitable, and in time it will include not only youth, but all people in America." (52) Although reactions to Reich's treatment of the "Greening of America" were quite mixed, it was, nevertheless, a widely read approach to describing what many were experiencing or observing during the late 1960's and early 1970's. While the contention that all Americans will be affected by the evolution of a new "consciousness" raises many questions today, it is interesting to note Reich's view of the education needed for a better way of life. (53)

> The first major theme of this new way of life must be education--education not in the limited sense of training in school, but in its largest and most humanistic meaning . . . Most of our education has taught us how to operate the technology; how to function as a human component of an organization. What we need is education that will enable us to make use of technology, control it and give it direction, cause it to serve values that we have chosen.

We are certainly experiencing change; indeed, many of us may be experiencing "future shock," to draw upon another bestselling author of the period. While most of us have acknowledged the inevitability of change, it appears that few of us have been prepared to acknowledge the inevitability of rapid change. The youth movement, which has contributed to change, is a reaction to its dehumanizing influences. All educators should be experimenting with innovative approaches which will prepare youth and adults for work and leisure in a future in which change is the only constant. Vocational education has the added responsibility of training students who will be capable not only of operating the technology, but also of directing its use. This calls for educational programs which border on wisdom.

VOCATIONAL EDUCATION AND THE CHANGING WORLD OF WORK

The value and function of education have radically changed in the last decade as education has assumed greater social and economic relevance. As a socializing agent, education is the first rung on the ladder to success. Those who fail in school fail in life. Consequently, more people at all economic levels are claiming education as a basic right.

The educational level of the American worker is moving upward, with worker groups in many occupations now exceeding the norm of a high school diploma. Moreover, educational differentials between occupational groupings are decreasing. While the average educational level of professional workers remains relatively stationary, the average educational level of blue-collar workers is rising. (54) The percentage of young people enrolled in high school (age 14 through 17) and attending college (age 18 through 24) has also been increasing over the past several years. In fact, since World War II, the number of college graduates has increased faster each year than has the total labor force. By 1980, it is anticipated that 40.7 percent of the civilian work force will be high school graduates. Fourteen percent are expected to have had one to three years of college and 18.5 percent will have baccalaureate degrees. Another 8.1 percent will have had at least one year of graduate school. (55) By 1980, half of all workers with college educations will be under 35 years of age and half of those with only an elementary education will be over 50 years of age and rapidly approaching retirement.

The possibility of a more highly educated work force appears to be a great social gain. Unfortunately, for many workers there is a widening gap between educational achievement and occupational attainment. A study comparing the educational requirements of jobs listed in the Dictionary of Occupational Titles, with the educational attainment of workers found little relationship. (56) Approximately half of all occupations require less than a high school education. If one excludes professional, managerial, technical, farming and machine trades, considerably less than half of the work force is in jobs requiring more than an elementary education.

It is commonly held that having an education beyond what is required to do one's job will make that job less satisfying. In a 1970 survey of working conditions, 15 percent of the workers reported that they were significantly overeducated and over 20 percent thought they were slightly overeducated. Forty-five percent believed that there was a perfect match between their education and their job and about 19 percent thought they were significantly or slightly undereducated. Those who believed they were overeducated expressed the greatest degree of job dissatisfaction. (57)

For those who have invested considerable time and effort in college, entry into the labor force can be disillusioning. A recent study has shown that in the late 1960's, the market for college-trained workers weakened as a result of a significant increase in the supply of new college graduates (relative to the supply of high school graduates). Large numbers of college graduates had to assume nonprofessional, nonmanagerial positions and their relative earnings fell. If the relative supply of college graduates continues to increase, the job status of both college and high school graduates may be expected to drop. (58)

All of this evidence suggests that the interrelationships between education and work are imperfect. Poor matching between people and jobs is one major problem. Another is that inadequate and uncoordinated long-term planning by education and the employment sector creates regular havoc in supply and demand.

If vocational educators have been somewhat remiss in providing training that meets job demands and requirements, employers are also at fault. Ivar Berg, in Education and Jobs: The Great Training Robbery, (59) suggests that the level of educational attainment rather than the quality of educational preparation (or, for that matter, the individual qualities and skills of the applicant) is used as a convenient, though inaccurate, screening device in hiring.

While attaching increasing importance to educational credentials, we have forgotten that successful job performance does not always depend on formal schooling. Many service-type jobs, for example, require personableness and sensitivity as much as skilled competence.

As we have seen, vocational education must be more attuned to the nature of work in our society. Even though the role of work is changing, far too many dissatisfied workers fragment their lives because their jobs are incompatible with their genuine interests. Perhaps vocational education has contributed to worker alienation by failing to identify individual needs in preparing students for available jobs.

The fact remains that the Bureau of Labor Statistics predicts "employment growth generally will be fastest in those occupations requiring the most education and training." (60) Some manpower experts also claim that "employment and education trends appear to be moving away from those occupations and types of training traditionally encompassed by vocational education." (61) Naturally, vocational educators, like others engaged in occupational training, must be constantly alert to the training needs that must be met to ensure that skill training fits present, and future, job requirements.

We are rapidly developing into a more technological society which demands a more highly trained and skilled labor force. While an advanced technological society does need technicians, it does not require a full complement of them at every stage. The prediction of Robert Theobald and others a decade or so ago was that automation and technology would require the full attention of only a comparatively few people, reducing the working time required of most others. The fact that this has not taken place with the rapidity once envisioned does not discredit the nature and direction of the trend, however.

Current trends--increased technology, rapid skill obsolescence, a growing service-based economy, emphasis on cognitive skills and knowledge, underemployment and leisure--all seem to be directing vocational education down many diverse paths. Yet, they may come together through a more integrated approach to education and skill training stressing preparation for work as well as preparation for life and continued learning.

Career Education

In 1966, an Ad Hoc Advisory Council on Vocational Education was appointed by the Secretary of Health, Education, and Welfare to review and evaluate the national vocational and technical education program. Among the many recommendations of this Council was one which today has taken on special interest and significance in the context of educational reform. The Council recommended that the schools should provide, as prevocational education, curricula to acquaint all students with the world of work. In its report, the Council stated that the entire curriculum could be designed "to present a view of employment: subjects such as music, art, mathematics, English, and so forth, could include content about employment opportunities and requirements in related occupations. Curriculums could be constructed in spiral fashion to enable each student to learn about the world of work at higher and higher levels of specificity as he proceeds through school." (62) The report goes on to say that while such programs would not be vocational education, ". . . it is to the advantage of vocational education that they be provided, and provided accurately." (63)

Clearly, it is this concern for acquainting all students with the world of work that we find at the heart of the career education concept which has evolved during the first half of the 1970's.

That career education is described as a concept that has evolved and not as a program that has been implemented is significant, for it may be said that this conceptual nature of career education is at once its greatest strength and its greatest weakness. Its strength lies in the fact that since its introduction in 1971 by Dr. Sidney Marland, then Commissioner of Education, career education has materialized in a variety of different ways that are expressive of the needs, objectives and resource capabilities of the individual school systems that have adopted it. Its weakness, insofar as the early 1970's are concerned, lies in the fact that its lack of definition left administrators, teachers, counselors, parents and others in the community free to view it as another variation of the vocational education theme, as a movement aimed at tracking students into jobs, or as an anti-intellectual program that would dilute the academic curriculum. But with the Congressional endorsement of career education in the Education Amendments of 1974, and with the establishment of the Office of Career Education and the National Advisory Council on Career Education, steps have been taken to increase the probability that the strength will overcome the weakness.

For vocational education, however, career education represents an important approach to educational reform. Of special interest are the conditions calling for reform to which the career education leadership seeks to respond. The U. S. Office of Education's first policy paper on career education lists the conditions as follows. (64)

1. Too many persons leaving our educational system are deficient in the basic academic skills required for adaptability in today's rapidly changing society.

2. Too many students fail to see meaningful relationships between what they are being asked to learn in school and what they will do when they leave the educational system.

This is true of both those who remain to graduate and those who drop out of the educational system.

3. American education, as currently structured, best meets the educational needs of that minority of persons who will someday become college graduates. It fails to place equal emphasis on meeting the educational needs of that vast majority of students who will never be college graduates.

4. American education has not kept pace with the rapidity of change in the post-industrial occupational society. As a result, when worker qualifications are compared with job requirements, we find overeducation and undereducated workers are present in large numbers. Both the boredom of the overeducated worker and the frustration of the undereducated worker have contributed to growing worker alienation in the total occupational society.

5. Too many persons leave our educational system at both the secondary and collegiate levels unequipped with the vocational skills, the career decision-making skills or the work attitudes that are essential for making a successful transition from school to work.

6. The growing need for and presence of women in the work force has not been reflected adequately in either the educational or the career options typically pictured for girls enrolled in our educational system.

7. The growing needs for continuing and recurrent education of adults are not being met adequately by our current systems of public education.

8. Insufficient attention has been given to learning opportunities which exist outside the structure of formal education and are increasingly needed by both youth and adults in our society.

9. The general public, including parents and the business-industry-labor community, has not been given an adequate role in formulation of educational policy.

10. American education, as currently structured, does not adequately meet the needs of minority or economically disadvantaged persons in our society.

11. Post-high school education has given insufficient emphasis to educational programs at the sub-baccalaureate degree level.

These conditions are reflections of many of the major issues and problems affecting vocational education in the early 1970's. However, the responses required by these conditions must come from the education community as

a whole; the gulf between academic and vocational education is no longer defensable.

Career education, as a new initiative and as a broadly defined concept with relatively little federal funding to stimulate development at the local level, has generally been greeted with enthusiasm, although certainly not without some reservations, in school systems across the country. All states, and probably all school systems, have developed some form of career education consistent with their view of the concept. To the extent that career education programs are effective in reaching all students in the schools, we may anticipate that students of the future will be more aware of the requirements and complexities of the world of work and of their potential roles in it. As they become more aware, they may become more critical and selective in preparing for careers. It has been said that as career education moved toward full implementation in the schools, vocational education programs would experience an influx of students because practical training would seem appropriate and desirable. This assumes that the vocational training available to students is relevant and consistent with the requirements of the job market. The point is that student demands on vocational education could very well increase with the expansion of career education, thus intensifying the need for a full range of occupational programs heretofore outside the scope of vocational education.

Career education represents an attempt to coordinate academic and vocational education throughout the educational process. More profoundly, it may become a social bridge.

Our society confers status on the collegiate and the professional and respects mental agility more than manual skill. That eight out of ten jobs do not require a college degree is a feeble argument against a deep social bias.

Unfortunately, a disservice is done to those who are misled into college without any idea of what inevitably lies beyond. Great injustice is done to the trained vocational graduate who as a plumber, for example, eventually may reach a salary level equal to an engineer's, and certainly more than a teacher's, but may never earn the same social standing.

It is disconcerting to note that vocational teachers and administrators lack the prestige of their fellow educators in academia. That they too have "gone to college" makes little difference. (65)

> Despite more than fifty years of rather generous support for vocational teacher education, it cannot be said that higher education has accepted the field of vocational education as a developing intellectual community, as an area in which instruction is related to disciplined inquiry at advanced graduate levels, or where the problems of a Nation's work force, including productivity and quality of life as well as employability, are embraced as important dimensions. Vocational education has not grown to possess the earmarks of strength or excellence among university programs--strong graduate programs at all levels, extensive research, priority of space, instruction considered important to all students

(or even to all students in the field of education), or a purpose which is central to the mission of the university.

Such efforts as career education may help to dispel tired prejudices which prevent men and women from recognizing and fulfilling their interests and talents.

Coping Skills

Another significant dimension enhanced by career education is the concept of coping skills--preparation for life as well as preparation for employment. Helping students understand job structures, hiring practices, discrimination and legal recourses, occupational mobility and productivity is a highly significant undertaking which may be as important as actual skill training.

In another vein, there has been a marked growth in courses which treat family relations and family planning, child care, consumerism and budgeting. Ironically, these highly relevant programs have developed within the most traditional vocational area, home economics. Devoted to perpetuating the values of the home and family at a time when both institutions are under question, these programs have given the field of home economics a vigorous and promising direction. The drive to make some of these offerings compulsory for all students, both male and female, has also added considerable breadth to the vocational education curriculum, supporting the contention that we must prepare students to become whole persons rather than producers.

Cooperative Education

With the advent of career education, interest in the relationship between education and work has been stimulated. Numerous reports on this subject have been published within the last two years. In 1974, the President called for the establishment of a task force to develop approaches to linking education and work. One area which has been subject to renewed interest is cooperative education.

Cooperative education is by no means new, nor are part-time school, part-time work programs. What is new is the emerging idea that it would be useful to a great many more students than have participated heretofore. Cooperative education is conceived of as a way to educate for the world of work; to motivate better performance in academic subjects by emphasizing their relevance to work; and to provide an opportunity for students to explore and obtain experience in various jobs. This is needed at all levels and, in fact, the U. S. Office of Education is currently supporting the development of cooperative education at the college level, in recognition of the value of this approach.

In an unpublished report submitted to the Department of Health, Education, and Welfare by the National Panel on High Schools and Adolescent Education, it is suggested that cooperative education is a means for alleviating the detachment and isolation of the youth peer culture by getting them involved at an earlier age in a realistic work situation with a wider group of

adults. (65) This echoes a need cited in a June, 1973, report of the Panel on Youth of the President's Science Advisory Committee which found the institutional framework for maturation in the United States to be in need of serious examination. (66) Cooperative education thus may be considered a means to curb prolonged adolescence. In this context, vocational education is serving a social purpose beyond mere preparation for the world of work.

DEMAND FOR ACCOUNTABILITY

Concern over the spending of public monies on educational institutions is increasing. How educational systems, including vocational and technical education, are preparing students for careers has also become a matter of serious concern. Unfortunately, questions concerning the adequacy of that preparation have frequently gone unanswered by educators.

Vocational educators, like others, can expect more and more requests for justification of their policies and programs to an increasingly better educated, and sometimes critical, public. Administrators are also finding that they are now having to justify their decisions and policies to staff and teachers as well. As a result, administrators must develop realistic goals and objectives and systematically plan programs accordingly, thus establishing criteria for both the planning and evaluation process. In fact, evaluation should increasingly become an integral part of comprehensive planning and decision making. Because administrators also must learn to cope effectively with limited resources, not only during the current recession, but also in the years ahead, the identification of priorities becomes doubly important. It is especially important as the responsibility for planning and implementing training programs is shifted to the local level.

The tendency in this direction is best illustrated by the development of the Comprehensive Employment and Training Act of 1973 (CETA). This act followed the Manpower Development and Training Act of 1962, as amended (MDTA), which had been the centerpiece of manpower action. CETA also absorbed elements of the Economic Opportunity Act. CETA tends to decategorize funding and to decentralize administration and planning in order to give responsibility and opportunity to local planners, who would draw from all available local resources to put together programs suitable for the particular needs of their localities. Of course, the continuation of this trend will require new definitions of appropriate relationships among federal, state and local levels. In view of this trend, vocational educators could profit from decategorization of funding.

Numerous factors affect what vocational education is held accountable to deliver. At this time, the economic slump and higher unemployment has resulted in more employers demanding trained employees--not wishing, and not having, to provide the training themselves. In this situation, it is clear that the requirements for training must be satisfied by the schools and other manpower training programs. This is one example of a responsibility education is expected to assume in our society. Whether vocational education should be held accountable for resolving fundamentally political and social problems, however, is highly debatable. Certainly, if vocational education is called upon to integrate students, particularly the disadvantaged, into

the economic mainstream, greater cooperation of other public and private education and training programs, social agencies, businesses and industries and government must be forthcoming.

REFERENCES

1. Irving H. Siegel (ed.), Manpower Tomorrow: Prospects and Priorities (New York: Augustus M. Kelley, 1967), pp. 87-112.

2. Manpower Report of the President, Including Reports by the U. S. Department of Labor and the U. S. Department of Health, Education, and Welfare (Washington: U. S. Government Printing Office, 1973), p. 59.

3. Ibid., p. 68.

4. Ibid.

5. Ibid., p. 60.

6. Roman C. Pucinski and Sharlene Pearlman Hirsch (eds.), The Courage to Change: New Directions for Career Education (Englewood Cliffs, N. J.: Prentice-Hall, 1971), p. 94.

7. F. E. Emery and E. L. Trist, Towards a Social Ecology: Contextual Appreciation of the Future in the Present (London: Plenum Press, 1973), pp. 167-169.

8. Manpower Report of the President, 1975, p. 34.

9. Evelyn A. Kay, Barbara H. Kemp and Frances G. Saunders, Guidelines for Identifying, Classifying, and Serving the Disadvantaged and Handicapped Under the Vocational Education Amendments of 1968, DHEW Publication No. (OE) 73 11700 (Washington: U. S. Government Printing Office, 1973), p. 4.

10. Rutherford E. Lockette and Lawerence F. Davenport, Review and Synthesis of Research on Vocational Education for the Urban Disadvantaged, ERIC Clearinghouse on Vocational and Technical Information Series No. 50 VT 013 761 (Columbus, Ohio: Center for Vocational and Technical Education, Ohio State University), pp. 33-37.

11. Peter B. Doeinger and Michael Piore, Internal Labor Markets and Manpower Analysis (Lexington, Mass.: D. C. Heath and Co., 1971)

12. Manpower Report of the President, 1973, p. 65.

13. Ibid., 1975, Chapter 3, "The Changing Economic Role of Women."

14. Ibid.

15. Ibid.

16. James F. Oates, Jr., Jobs for Veterans, A Report to the President of the United States, March, 1974, p. 68.

17. Karen J. Winkler, "Mustering Out the GI Bill," The Chronicle of Higher Education, XI, No. 5 (October 14, 1975), pp. 1, 11.

18. Bureau of Labor Statistics, Employment and Earnings, States and Areas, Bulletin 1370-7 (1970), p. 500.

19. Bureau of Labor Statistics, Occupational Outlook Handbook, 1974-1975, p. 16.

20. Ibid., p. 17.

21. Ibid.

22. Ibid.

23. Ibid.

24. Ibid., pp. 16-18.

25. Ibid., p. 15.

26. Ibid., pp. 18, 619.

27. National Commission on Productivity and Work Quality, Fourth Annual Report (Washington: U. S. Government Printing Office, March, 1975), Table I, p. 40.

28. Bureau of Labor Statistics, The Structure of the U. S. Economy in 1980 and 1985, Bulletin 1831 (1975), pp. 1-10.

29. Sar Levitan and William B. Johnston, Work Is Here To Stay, Alas, (Salt Lake City: Olympus Publishing Co., 1973), pp. 170-171.

30. Manpower Report of the President, 1974, p. 3.

31. Ibid., p. 15.

32. Occupational Outlook Handbook, 1974-1975, pp. 18-19.

33. The Structure of the U. S. Economy in 1980 and 1985, p. 7.

34. Manpower Report of the President, 1973, p. 82.

35. Ibid., pp. 81-82.

36. Levitan and Johnston, p. 167.

37. Occupational Outlook Handbook, 1974-1975, pp. 19-21.

38. Ibid.

39. Richard H. Hail, Occupations and the Social Structure (2nd ed.; Englewood Clifs, N. J.: Prentice-Hall, 1975), pp. 133-134.

40. Daniel Bell, The Coming of the Post-Industrial Society (New York: Basic Books, 1973).

41. Richard A. Holland, "An Indexing of Metropolitan Post-Industrialism" (unpublished research paper, University of Missouri-St. Louis, 1975).

42. Emery and Trist, pp. 164-165.

43. Siegel, p. 133.

44. "The No Growth Society," Daedalus (Fall, 1973), pp. 1-3.

45. Levitan and Johnston, p. 162.

46. Ibid., p. 163.

47. Ibid., pp. 157-158.

48. Emery and Trist, p. 199.

49. Ibid., pp. 198-199.

50. Ibid., p. 199.

51. Sar A. Levitan, Garth L. Mangum and Ray Marshall, Human Resources and Labor Markets: Labor and Manpower in the American Economy (New York: Harper & Row, 1972), p. 575.

52. Charles Reich, The Greening of America (New York: Bantam Books, 1971. Published by arrangement with Random House), p. 2.

53. Ibid., p. 390.

54. Levitan, Mangum and Marshal, p. 57.

55. Manpower Report of the President, 1974, p. 104.

56. Ann R. Miller and Susan Klep, Occupations of the Labor Force According to the Dictionary of Occupational Titles, Statistical Evaluation Report No. 9 for the Statistical, Policy, and Management Information System (Washington: U. S. Office of Management and Budget, Executive Office of the President, February, 1971).

57. Levitan and Johnston, p. 74.

58. Richard B. Freeman, "Youth Employment Opportunities: Changes in the Relative Position of College and High School Graduates," Labor Market Information for Youth, ed. Seymour L. Wolfbein (Philadelphia: Temple University School of Business Administration, 1975), 101-123.

59. Ivar Berg, Education and Jobs: The Great Training Robbery (New York: Praeger Publishers, 1970).

60. Occupational Outlook Handbook, 1974-1975, p. 21.

61. Pucinski and Hirsch, p. 107.

62. U. S. Congress, Senate, Subcommittee on Education of the Committee on Labor and Public Welfare, Notes and Working Papers Concerning the Administration of Programs Authorized under Vocational Education Act of 1963, As Amended (March, 1968), p. 39.

63. Ibid.

64. U. S. Department of Health, Education, and Welfare, An Introduction to Career Education, A Policy Paper of the U. S. Office of Education, DHEW Publication No. (OE) 75-00504 (Washington: U. S. Government Printing Office), pp. 1-2.

65. Gordon I. Swanson, The Preparation of Teachers for Vocational Education, Project Baseline Supplemental Report (Flagstaff, Arizona: Northern Arizona University, 1974), p. 5.

66. Panel on Youth of President's Science Advisory Committee, Youth: Transition to Adulthood prepared by James S. Coleman (Washington: U. S. Government Printing Office, 1974).

67. Garth Mangum and David Snedeker, Manpower Planning for Local Labor Markets (Salt Lake City: Olympus Publishing Co., 1974), p. 19.

IV

MAJOR ISSUES IN VOCATIONAL EDUCATION AND RELATED POLICY RECOMMENDATIONS

INTRODUCTION

The preceding chapters of this report have dealt with vocational education in the United States from two different standpoints. Chapter II delineated the major expectations of Congress under the 1968 Amendments and described the progress being made toward fulfilling the Congressional mandate. As is evident in the chapter, measurable achievements only partially reveal the dimensions of the vocational education program. As has been noted, lack of both quantitative and qualitative data at the national level is one of vocational education's most basic problems. There are reasons for both the progress and the problems identified in Chapter II, and those which require policy changes have important implications for the future of vocational education.

Chapter III described the climate for vocational education in the United States during the early 1970's and the emergent trends which warrant the attention of vocational educators and policy makers. The social and economic changes which have occurred and the legislative and programmatic responses which have been formulated since passage of the 1968 Amendments have shaped the present program. In some cases, the observed demographic and social trends suggest a future direction for vocational education. In other cases, the implications of current trends are not so clear.

This final chapter of the report draws from the experience of the 1971-1974 period those issues which are key to the continuation of the progress, and resolution of the problems, of vocational education. Many of these issues are discussed in terms of the social, economic and political trends described in Chapter III. It would be impossible to treat all of the problems and all of the developments and trends presented throughout this report. Broad socio-economic concerns deserve more thoughtful consideration by the entire vocational education community. In short, the issues selected for inclusion in this chapter are those which merit immediate attention by vocational leaders and a response by Congress.

It is unlikely that resolution of these issues will result from programmatic changes or increased funding levels alone. Most solutions call for policy guidance. To that end, the discussion of each issue is accompanied by a recommendation concerning policy responsive to the issue. Taken as a whole, it is believed that the recommendations constitute a framework for effective vocational education policy for the nation.

The issues and recommendations which follow are not ordered in terms of level of priority. All, from general to more specific administrative and

programmatic concerns, are equally important for a more effective and efficient vocational education system. The reader will note that a number of issues are supported by data from the preceding chapters. Others are based on concerns that have arisen since enactment of the 1968 Amendments.

ISSUES AND RECOMMENDATIONS

1. *Issue: Increasing demands for accountability in vocational education underscore the need for improved data as well as a strengthened evaluation effort.*

Discussion: Public education has long been a favorite topic for complaint. In the past few years, however, taxpayers have been registering their dissatisfaction in an open political manner. Vocational education, because of its high costs, is of particular interest in this period of inflation and "tight" money. Because citizens have brought their concerns to the attention of state legislatures and the Congress, vocational educators are being called upon by policy makers for a close accounting of program achievements.

For the most part, vocational educators attempting to respond, especially at the federal level, have discovered that the data routinely kept on program operations are grossly inadequate to meet program evaluation requirements. Data available at the national level can be used to determine the scope of vocational education, but cannot shed much light on the qualitative aspects of the programs. Some states have installed management information systems to retrieve and analyze data on program operations, but a national picture is difficult if not impossible to assemble. The need for a national vocational education information system has been discussed throughout this report, and will be addressed again later in this chapter. The need for program accountability strengthens the rationale for such a system.

The demand for accountability also strengthens the rationale for a more vigorous initiative in the area of program evaluation. Accountability cannot exist without an evaluation system capable of identifying the extent to which funds are impacting on the needs and problems of youth and adults in the programs, and the needs and problems of communities throughout the nation. Program improvement depends upon coordinated evaluation efforts at the local, state and national level. Ongoing assessments must measure programs in terms of their stated objectives. Yet, the suppositions used in developing satisfactory and realistic objectives, as well as effective and efficient program approaches, must also be reviewed and tested on a routine basis. The current weaknesses of evaluation, including methods and techniques, are related to the inadequacy of the research effort, which has never been funded by Congress at a level commensurate with need.

Recommendation: It is recommended that the Congress include in pending vocational education legislation an authorization of funds (separate from research funds) enabling each state to conduct an annual evaluation of vocational education programs. Such evaluations should include analyses of both quantitative and qualitative data and use, where appropriate, U. S. Office of Education codes for data reporting. Each state should be required to respond to deficiencies within a reasonable period of time (18 months is

suggested) after each annual evaluation. It is further recommended that the U. S. Office of Education, in cooperation with the National Center for Education Statistics, be required by law to publish an annual report on vocational education for submission to the Secretary of Health, Education, and Welfare, the Congress and the President.

2. *Issue: At question is whether the vocational education research program should be administered by the U. S. Office of Education or the recently created National Institute of Education.*

Discussion: The Vocational Education Amendments of 1968 stipulated that half of the research funds be administered by the U. S. Commissioner of Education to address continuing national needs and that half of the research funds be used by the states to address state needs. This provision still appears to be sound. National priorities must be addressed on a continuing basis and not funded piecemeal fashion. The same holds true for research needs in the states. Experience shows that research projects and programs in vocational education should be closely related to the needs of the field and coordinated closely with the agency (in this case, the U. S. Office of Education) responsible for administering the vocational education legislation.

To date, the National Institute of Education has not demonstrated either a short-term or long-term commitment to vocational education research needs. For this reason, neither practitioners nor researchers are enthusiastic about the possibility of having the vocational education research program administered by the National Institute of Education.

National research needs should be identified by leaders in the field of vocational education to assure that approved research activities will make a significant contribution to the advancement of the program. The U. S. Office of Education, Bureau of Adult and Occupational Education, is staffed with persons competent in the field of vocational education, while the National Institute of Education is staffed with generalists interested in broad issues in education.

Past experience has shown that unless a program is designed and administered properly by competent individuals, much of the merit of the program is dissipated. At one time, the research program for vocational education was administered by a separate division of the U. S. Office of Education. This arrangement was found to be less effective than having the program administered directly by the division responsible for overall program administration of vocational education.

The research program in vocational education has been modestly funded. While the Vocational Education Amendments of 1968 provided that 10 percent of the basic grant funds appropriated be used for research, Congress has instead appropriated a line item for vocational research. While federal expenditures for vocational education ranged from approximately $393 million in 1971 to approximately $551 million in 1974, line items appropriated for vocational research ranged from approximately $35 million in 1971 to $18 million annually from 1972 through 1974. There is no question about the viability of the research program in vocational education; many excellent products have resulted from projects funded through the U. S. Office of

Education. Nevertheless, the responsiveness of vocational education is curtailed by the low priority given to research.

Recommendation: It is recommended that the Congress include in pending vocational education legislation provision that research and development be given top national priority and that a separate funding authorization be included in the legislation which provides that half of the funds for vocational education research be administered by the U. S. Commissioner of Education to address continuing national needs and half of the research funds be used by the State Boards for Vocational Education to address state needs. It is further recommended that the administrative authority for vocational education research remain with the Bureau of Occupational and Adult Education, U. S. Office of Education.

3. *Issue: Increased support for curriculum development at the federal level would help guarantee the relevance of programs and the quality of instruction in vocational education.*

Discussion: Part I of the Vocational Education Act of 1963, as amended, authorizes the U. S. Commissioner of Education to make grants to, or contracts with, colleges and universities, State Boards for Vocational Education and other public or nonprofit private agencies and institutions for curriculum development in vocational and technical education. No matching funds are required. Because testing materials in the schools is a requirement for curricula developed under provisions of Part I, this curriculum development program provides a measure of quality control to assure program excellence. The major mission of Part I is to develop curricula to provide students with saleable skills and related knowledge. No other federal program meets this imperative need.

Appropriations, however, have been inadequate compared to need for curriculum development. From 1971 to 1974, Congress appropriated $4 million each year for curriculum development. This constituted four-tenths of one percent of the vocational education budget in 1971 and 1972; three-tenths of one percent of the budget in 1973; and one-half of one percent of the budget in 1974. And to add to the problem of minimal funding, confusion now exists as to whether the National Institute of Education or the U. S. Office of Education would be the most appropriate administrator of funds for curriculum development.

Recommendation: It is recommended that the Congress include in the pending vocational education legislation a specific authorization for curriculum development with no matching funds required. It is further recommended that the Congress designate priority areas to be addressed, with curricula for new and emerging occupations and vocational teacher education stressed. It is further recommended that the Bureau of Occupational and Adult Education, U. S. Office of Education, be the administering agency for the vocational education curriculum development program.

4. *Issue: The need for adult and continuing education programs to upgrade and retrain employed and unemployed individuals continues to grow.*

Discussion: Between 1971 and 1974, adult education enrollments rose from approximately 2.9 million to over 3.5 million, an increase of 22.6 percent. In this period, the total federal, state and local investment per student in adult education decreased from $74.46 to $70.40. Even with the increase in adult enrollments, the programs available to adults are not keeping pace with the needs for vocational education at this level.

Structural changes in the labor market, modifications to job requirements, earlier retirements, economic pressures--all place new demands on adult vocational education programs nationwide. In general, the demands are for upgrading and retraining programs. In particular, there are needs for short, intensive courses to bring adults up to date on changes in occupational requirements. This need is especially great among women returning to the work force after prolonged absences. There is no question that as we move toward a "middle-aged" population in this country, the responsiveness of adult and continuing education programs will be severely tested.

As cited earlier in this report, there are a number of factors to explain why adult vocational education programs have not kept pace with emerging needs. First, adult education is non-compulsory; it falls outside the mainstream of traditional schooling. Second, the success of training and retraining programs is complicated by shifting economic conditions. Third, with the great emphasis placed on initial preparation of youth for the labor market, there has been only the dimmest recognition of the potential impact of adult and continuing education. Finally, many adults who qualify for assistance under a number of federally sponsored programs may opt for financial support while in training.

Recommendation: It is recommended that the Congress strengthen adult vocational and continuing education in pending vocational education legislation; that the recommended requirement for comprehensive planning include ongoing assessments of the needs of out-of-school youth and adults; and that such assessments be reflected in state plans for vocational education.

5. *Issue: Vocational education places too much emphasis on secondary programs and not enough emphasis on postsecondary programs.*

Discussion: In view of the myriad demands created by a highly technological society, the public need for postsecondary technical programs will no doubt continue to grow. Yet, the mandate to provide all young students with at least one saleable skill prior to leaving high school will require continued expansion of vocational programs at the secondary level.

Critics contend that vocational education has given only minimal attention to the needs of persons enrolled in postsecondary programs. From the enactment of the Smith-Hughes Act of 1917 to the passage of the National Defense Education Act of 1958, which mandated training of skilled technicians to meet national defense needs, postsecondary programs were given tentative and later substantial support. The Vocational Education Act of 1963 and the 1968 Amendments broadened the scope of vocational education and also

highlighted the need to meet the education and training requirements of people of all ages in all communities. This, coupled with the phenomenal growth of community colleges during the 1960's, gave impetus to rapid expansion of vocational education programs at the postsecondary level, a growth rate which now exceeds that of secondary programs. (During the period 1971-1974, postsecondary enrollments increased 42.6 percent, while secondary program enrollments increased 29.3 percent.)

Recently, with the high cost of inflation and the spiraling costs of a college education, spokespersons for postsecondary education have argued that since the vocational education program is growing so rapidly at the postsecondary level, funds should be allocated by program level. Special interest groups for postsecondary are promoting the concept that 40 percent of the federal funds for vocational education should be specified for use at the postsecondary level, 40 percent at the secondary level and the balance, 20 percent, be allocated as determined upon the recommendations of the State Advisory Council on Vocational Education. Apparently, little quarter is given to allocating funds on the basis of demonstrated need. This arbitrary split of funds might do great disservice to the "people-centered" approach of vocational education.

Recommendation: It is recommended that the Congress emphasize the need for postsecondary vocational education programs, as well as secondary programs, and that a formula be developed to assure that federal funds are not arbitrarily allocated by levels of education. It is further recommended that adult vocational education programs, discussed in the preceding recommendation, should be included in the distribution formula. The formula should assure that funds be used in the most equitable way to meet the educational needs of all individuals at all program levels which the State Board for Vocational Education is charged to serve.

6. *Issue: Vocational education has made only minimal progress toward meeting the needs of the disadvantaged and handicapped.*

Discussion: Congress, through provisions of the 1968 Amendments, directed that 10 percent of vocational education funds be applied to physically and mentally handicapped persons and that 15 percent of the funds be applied to persons with academic, socio-economic and other handicaps that prevent them from succeeding in the regular vocational education program. Between 1971 and 1974, vocational education enrollments of physically handicapped students increased over 16 percent, from 202,910 to 235,569. In this same period, enrollments of disadvantaged students increased by more than 17 percent, from 1,393,156 to 1,631,922. These increases, however, are not proportionate to the greater overall increases experienced in vocational education during this period. Increases did exceed statistical expectations, however.

The growth of programs and services for disadvantaged and handicapped persons has been impeded by operational and administrative problems in the delivery system as well as by conditions over which vocational education has no jurisdiction. For one, persons with special needs, both youth and adults, can qualify for a host of benefits from a number of different federal and state agencies. Moreover, adults classified in the special needs group can

generally qualify for assistance under training programs which pay stipends; vocational education students do not qualify for stipends. Unless this is clarified, the education and training needs of the disadvantaged and handicapped will continue to be neglected, and their "shopping" for programs which are the most financially beneficial will continue at the taxpayer's expense.

Overall, there is vagueness and confusion among agencies because their responsibilities are ill-defined. Without a clear delineation of their role, some vocational educators argue that the provisions to set aside 10 percent and 15 percent of funds for persons qualifying with special needs reduce their capability to respond to the needs of all people of all ages in all communities.

Recommendation: The Congress, in considering pending vocational education legislation, should carefully examine all pieces of legislation containing provisions for assistance to persons with special needs, and clearly establish through law the agencies and/or institutions responsible for providing education, training or supportive services to both youth and adults.

7. *Issue: Vocational education inadequately meets the needs of students in the inner cities.*

Discussion: Vocational education in urban areas, particularly inner cities, is characterized by a number of unique problems. While needs for a wide range of occupational programs are great, the range of programs actually offered is frequently too narrow. Given the limited tax base of most cities and the eroding effects of inflation, lack of funds poses a serious problem. Limited facilities and the high cost of construction and maintenance pose another problem. The "white flight" to suburbia, leaving a heavy concentration of disadvantaged minorities in the core cities, further aggravates the situation.

The low achievement level of students in the inner cities, particularly in the basics of reading, writing and arithmetic, places even heavier demands on the vocational education system attempting to prepare these students for the world of work. Working with educationally and economically disadvantaged students is more time consuming and generally more costly. The need for guidance and counseling is intensified, as is the need to develop a more effective placement and follow-up system. The difficulty that vocational education has experienced in serving significant numbers of disadvantaged students, as discussed in the preceding recommendation, is clearly reflected in the problems encountered by vocational education in the core cities.

Problems in urban areas vary in kind and in degree. No two situations are alike; each city has its own social and political structure with which to deal. The recent crisis of solvency in New York City has ominous implications for the future of large cities, their social services and education systems. This is not to suggest that rural and suburban areas do not have their own unique problems which require appropriate attention. But it is a simple matter of fact that when large numbers of persons are concentrated in a limited area, problems are intensified.

Recommendation: It is recommended that the Congress carefully examine the provisions of existing and proposed vocational education legislation to assure equity of treatment for all individuals in all communities, and that a provision for special assistance to urban areas be incorporated, without reducing funds needed in rural or suburban areas. It is further recommended that the Congress examine provisions of the Comprehensive Employment and Training Act (CETA) to determine the feasibility of transferring CETA funds to vocational education programs in the inner cities.

8. *Issue: Vocational education and manpower training programs authorized under provisions of the Comprehensive Employment and Training Act (CETA) lack coordination.*

Discussion: One of the major questions raised during the 1974-1975 hearings on new vocational education legislation is whether Congress can bring about improved coordination of training programs funded under the Vocational Education Amendments of 1968 and the Comprehensive Employment and Training Act. Coordination poses a problem because the Labor Department is responsible for the CETA program and because in most states the bulk of CETA funds are discributed directly to local prime sponsors.

The Labor Department has prescribed and established administrative policies to decentralize decision making and program implementation to the regional, state and local levels. The Comprehensive Employment and Training Act of 1973, administered by the Department of Labor, is a classic example of decategorized funding as well as decentralized administration and planning. One major drawback of this administrative policy is the overlap and duplication of training efforts.

Whereas vocational educators played a significant role in assisting the underemployed and unemployed under the provisions of the Manpower Development and Training Act of 1962, as amended, they are granted little opportunity to provide occupational training through the provisions of the CETA legislation. A few states are developing cooperative arrangements whereby the vocational education system is being used heavily for training persons through CETA, but these are isolated cases and apparently due to vigorous leadership on the part of both vocational education leaders and CETA administrators.

Policies at the national level have not lent impetus nor stability to close working arrangements between the vocational education community and the CETA community. Moreover, according to a number of federal and state officials, the policies which do exist frequently create confusion for those administrators attempting to establish programs to assist the people the legislation was designed to serve. Vocational education's major role is preparation of youth and adults for employment. Although CETA does include the word "training" in the title of the Act, the way the legislation is currently being administered gives very little emphasis to training per se. Until such time as the education and training functions supported by federal legislation are merged under one agency, there will continue to be difficulty in designing a comprehensive education and training delivery system.

Recommendation: It is recommended that a Department of Education and Manpower Training be established at Cabinet level and that this agency be responsible for overall coordination of policies dealing with education and manpower training. It is further recommended that the Congress include provision in pending vocational education legislation to assure cooperation and coordination of the vocational education program and the Comprehensive Employment and Training Act (CETA) program.

9. *Issue: Women enrolled in federally supported vocational education programs are concentrated in traditional, female-intensive programs.*

Discussion: A review and analysis of data on vocational education for women indicate that female students at all levels are generally confined to traditional, female-intensive programs, where they are either prepared for relatively low paying, dead-end jobs or for homemaking. Approximately half of all students in federally supported vocational education programs are females. In the labor force, women now comprise 40 percent of the total (compared to 30 percent of the total 25 years ago). Despite their growing numbers, most are concentrated in low-level positions in traditional occupations. With one out of eight families headed by a woman, many women must work out of economic necessity. An education which limits job opportunities and the earnings potential of women is finally too costly--for women, their families and the social welfare.

Because vocational education mirrors our society, little effort was directed at counseling and preparing women for nontraditional occupations until very recently. Some progress was evident in the early 1970's. Female vocational enrollments in technical programs increased from 22,890 in the 1966-1967 school year to slightly more than 33,000 by 1972. In trade and industrial programs female enrollments rose from 155,808 to 279,680 during the same period. Still, 25 percent of the women in vocational education are in homemaking, and women are in the majority in only 33 wage-earning occupations.

With the passage of equal rights legislation, sensitivity to the inequities faced by women in education and the work force has increased. This awareness is only beginning to be reflected in vocational education programs and vocational counseling efforts and should be heightened by the recent release of Title IX guidelines. However, the elimination of sex-role stereotyping in our society will require more than compliance to the law. Broad reforms are essential throughout the entire education system.

Recommendation: It is recommended that Congress and education and manpower policy makers require that the design and development of occupational education programs assure equal exposure of both sexes to opportunities that exist across all occupational fields. It is further recommended that the Congress require that the U. S. Office of Education reinstitute the policy of collecting vocational education data by sex to provide a basis for accurate analysis and monitoring of male/female enrollments and distribution in vocational education programs.

10. *Issue: The professional personnel development of both leaders and teachers in vocational education may be imperiled by cutbacks in funds for teacher education programs.*

Discussion: The quality of any educational program is contingent on the competence and foresight of the individuals who direct such an effort. If the teachers are the "keystone" of vocational education, certainly those who administer and supervise programs are the "buttresses upon which the program is built."

Between 1971 and 1974, secondary vocational enrollments increased over 29 percent, while the number of vocational education teachers increased approximately 25 percent. During the same period, enrollments in preservice teacher education programs increased from 52,753 to 61,711, while enrollments in inservice programs increased substantially, moving from 80,746 to 109,250, according to the U. S. Office of Education. It is apparent that preservice teacher education programs may not be keeping pace with teacher education needs as vocational education enrollments continue to expand.

Leadership development, so critical to the improvement of vocational education, has received some impetus. During the period 1971-1974, 1,065 leaders were selected to continue their studies in 33 designated institutions offering comprehensive vocational education programs as authorized by Part F of the Education Professions Development Act.

The recent decision by selected state departments of vocational education to cut funding for teacher education in the universities may have long-range negative effects. While this move under a period of austere budgeting is understandable, it could result in a shortage of well prepared teachers and administrators in the future. In fact, Project Baseline reports and discussions with state vocational leaders reveal that teachers in some areas of vocational education are already in short supply.

Recommendation: It is recommended that the Congress include a separate authorization in pending vocational education legislation for the updating and reorientation of vocational teacher education programs and for preparation of vocational education teachers and leaders. It is further recommended that emphasis be placed on the preparation of vocational leaders for participation in policy development at the national level.

11. *Issue: Vocational education is hampered by the absence of a national uniform reporting and accounting system.*

Discussion: Lack of uniformity in reporting data on vocational education across the United States severly limits analysis of the direction and impact of the national effort. Vocational education planners and policy makers, and the program analysts who support them through studies of achievements, costs, impacts, etc., are acutely aware of the low confidence level that must be attached to many decisions based on program data now available at the federal level.

While there are exceptions, it is generally true that lack of consistency among states concerning definitions of data elements and terms, performance standards and procedures for assembly and verification of data has severely limited the utility of vocational education program data. Even the most careful analyses are of questionable value when the data used are suspect.

There have been, and continue to be, numerous efforts to bring uniformity and completeness to the national data base on vocational education. Project EDNEED, funded by the U. S. Office of Education, is one example of an effort to classify the kinds of information needed by vocational education at all levels. Yet this and other efforts are progressing in the absence of a clear and certain commitment to this concept at the federal level.

As needs for program expansion intensify and as resources required for all facets of vocational education become more difficult to acquire, the need for sound data on which to base decisions will become critical. The human and financial costs associated with ill-founded decisions are enormous in comparison to the costs of a national initiative aimed at generating improved data throughout our vocational education system.

Recommendation: It is recommended that policy makers establish a national commitment to installing a viable, realistic, national reporting system with a timetable for implementation. It is further recommended that the National Center for Education Statistics, in conjunction with the U. S. Office of Education, work with state and local leaders in vocational education to determine the efficacy, and gain support for, such an effort; establish information required for policy and decision making; establish a definition of terms to which all subscribe; and settle on what data elements should be collected. Provisions for the National Center for Education Statistics as specified in the Education Amendments of 1974 should be fully funded to carry forth this effort.

12. *Issue: There is a critical need for comprehensive planning for vocational education programs.*

Discussion: As stated repeatedly throughout this report, comprehensive planning is crucial to the success of vocational education. A host of complex variables must be considered in designing programs for a comprehensive vocational education delivery system. Currently, a number of groups, agencies and bodies are engaged in planning and frequently there is duplication and outright overlap in their activities. For example, the establishment of State Postsecondary Education Commissions under the provisions of Title X, Section 1202, of the Education Amendments of 1972 have created confusion about who is responsible for planning postsecondary occupational education programs, even though the State Board for Vocational Education is charged by law to prepare state plans and annual and long-range plans to accommodate all levels of education.

Added to the planning problem is the inadequacy of data and information on manpower projections. A number of critical factors must be considered when designing vocational education programs. Such tasks as the following must be performed on a continuous, ongoing basis: translating future

projections for the goods and services industries into the kinds of workers needed and thus the kinds of programs to be developed; considering constraining factors such as short-term budgeting and late appropriations; maintaining a balance of programs for all groups and ages at all levels of education; exploring ways to generate many kinds of reliable data necessary for decision making; building in the flexibility needed to accommodate socio-economic changes; developing strategies for updating or modifying existing programs and terminating outmoded programs; providing fair and equitable treatment of special population groups; and examining policy and legal constraints. Coordination and cooperation with a host of agencies, groups and individuals as well as ongoing supervision of day-to-day matters of the program are also requisites for effective planning. While these are only a few of the factors which must be considered in comprehensive planning, one can readily see that the task is both enormous and complex.

It is assumed that sound planning generally results in program excellence. This is particularly true when evaluation is regarded as an integral part of the planning process. Thus, the recent emphasis on the need for comprehensive planning to improve delivery of vocational education services at all levels is long overdue.

Recommendation: It is recommended that the Congress include in pending vocational education legislation stringent requirements for comprehensive planning of vocational education and that a separate authorization be included with funds allocated to the State Boards for Vocational Education for this particular purpose. It is further recommended that Section 1202, Title X, of the Education Amendments of 1972, authorizing comprehensive planning at only the postsecondary level, be repealed.

13. *Issue: A major problem in planning vocational education programs is the poor quality of manpower projections.*

Discussion: Administrators and others engaged in planning vocational education programs are likely to encounter a maze of estimates and projections of national manpower requirements which may have little or no relevance for the communities in which they live. In addition, there is apparently no way to determine which set of data, if any, is the most appropriate for specific planning purposes. At the same time, vocational education planners may be confronted with a dearth of information about local, state or regional needs for any given occupation. Coupled with the problem of the poor quality of manpower projections is the problem of definitions. Business and industry use one set of definitions, while educators may use another for identical occupations. To determine the utility of manpower projections, the user must have some understanding of their origin and their limitations and some background on the way in which the projections have been prepared.

Planning becomes very difficult when considering occupations for which there are short-term employment needs. New and emerging occupations present greater difficulties. Vocational educators are placed in the awkward position of attempting to identify emerging occupations, designing programs for which real need is not yet determined--making sure that the content of the programs will be responsive to user needs! This situation

is confounded by the fact that it generally takes from seven to ten years to design and develop realistic curricula and get programs into operation.

Vocational educators and manpower planners who developed manpower projections under the old Manpower Development and Training Act had some opportunity to work together to achieve common goals. However, since each program is using the data for different purposes, problems ultimately arise with respect to how the data are interpreted. Vocational educators need information which will tell them about growth or contraction in a given occupation. They need projections for the future in order to plan programs and counsel students properly and they need this manpower information at the local, state, regional and national level. Yet, long-range projections are rarely stable.

The uncertainty of future manpower projections is associated with major fluctuations in the labor market. For example, until the energy crisis, apparently little thought was given by the auto industry to the design of automobiles which consumed less gasoline. The combined energy crisis and the depressed economy forced the automobile industry to move away from design and production of "gas guzzlers," but not before the automobile industry went into a major slump as a result of the consuming public refusing to purchase expensive cars that were costly to operate. The energy crisis linked with the depressed auto industry had dramatic effects on the need for workers in a host of related industries. Not even a seer could have predicted in 1970 what was to occur in 1974. This situation could be replicated for any number of occupations at other times and in other circumstances. Manpower projections anticipate demands for goods and services five to ten years in advance, plus derived demands for the work force to be employed to provide such goods and services. As a result, judgmental factors come into play and introduce a large margin of uncertainty. The fact remains that these and other constraining factors will continue to exist and provision must be made to accommodate them with greater precision.

Recommendation: It is recommended that the Congress include in pending vocational education legislation a requirement that national manpower projections be produced jointly by the Department of Labor and the Department of Health, Education, and Welfare. Such projections should be published annually. It is further recommended that the legislation include provision for the two departments to provide technical assistance in this area to the states, and that funds be authorized and appropriated to the sole state agency for vocational education for the development of manpower studies and projections.

14. *Issue: Governance of education, particularly vocational education, has become increasingly complex.*

Discussion: A major issue which has emerged during recent years is that of governance--that is, who should be responsible for vocational education policies at the state level. For many years, the State Board for Vocational Education (generally a secondary board) has been the sole state agency for vocational education. This pattern is now under attack by a number of groups who argue that the responsibility for establishment of policies should be divided between secondary and postsecondary boards because vocational

education programs are growing so rapidly at the postsecondary level. Such a division would probably lead to less cooperation between the two levels and increased difficulty in articulation. There is no question that the board responsible for establishing vocational education policies at the state level should be representative of a number of different publics, including secondary and postsecondary interests. To suggest, however, a split based on levels of education seems to auger a further separation of the various interests and responsibilities comprising vocational education.

In recent years, we have witnessed a proliferation of policy-making bodies at all levels--federal, state and local. This is largely an outgrowth of a host of federal and state legislative actions which call for establishment of policy bodies for a myriad of programs. This "superlayering of boards" diffuses the decision-making process and resultant policies. The increased reliance on the intervention of the courts for final policy decisions in the educational arena, particularly those stemming from community grievances or infringements against individual rights, tends to confound governance. Add to this the argument by individuals and interest groups that they have a right to be involved in determining the programs in which they participate or to which they contribute financial support and the situation becomes more complex.

Linked closely to the governance issue is the question of administration of programs. In some states, the state director of vocational education meets only rarely with the state board responsible for establishing policies. If the chief administrator of a program within a state is afforded only occasional opportunities to meet with the board, how can suggestions for program improvement through policy modification be executed? To give an individual responsibility with little or no authority is to assure problems in any program.

Recommendation: It is recommended that the Congress maintain the sole state agency concept for vocational education; that the sole state agency continue to be representative of various publics, including secondary and postsecondary interests; and that the state director for vocational education, as chief administrative officer, report directly to the state board responsible for establishing vocational education policies.

15. *Issue: The pending Administration proposal for consolidation of vocational education legislation, rather than categorical funding of programs, appears to be an outgrowth of the revenue sharing concept.*

Discussion: The current and previous Administrations have supported the concept of revenue sharing for educational programs. Yet, legislative proposals introduced in recent years have not been well accepted by either the Congress or the general public. Nevertheless, the Administration is currently promoting vocational education legislation based upon the concept of "consolidation," which in essence abolishes the categorical funding approach included in the provisions of the Vocational Education Amendments of 1968. While consolidation would not reduce the state's responsibility for responding to national priorities specified in any vocational education legislation, it would mean, however, that a state would be given total discretion in

apportioning funds to each of its program categories. Although U. S. Office of Education officials contend that there is no empirical evidence upon which to base a recommendation for consolidation, the Administration continues to support the consolidated approach to funding vocational education.

The present funding approach for federal vocational education legislation as embodied in the 1968 Amendments appears to be sound. Numerous spokespersons throughout the country have suggested that the Congress would do well to modify and simply update the current funding approach to vocational education legislation rather than design consolidated legislation which could result in the Congress "putting the money on the stump and running." While the states should have greater flexibility in administering federal vocational funds, in accordance with their own internal needs, there must be assurances that all priority areas in vocational education receive attention.

Recommendation: It is recommended that the Congress retain provision for categorical funding based upon the concepts incorporated in the Vocational Education Amendments of 1968 and that provision be built into pending vocational education legislation to provide greater flexibility in the administration of federal funds at the state level while assuring that national priorities are addressed.

16. *Issue: Differentiation of career and vocational education objectives and scope and clarification of separate funding requirements will contribute to the success of both efforts.*

Discussion: Vocational education monies have supported the development of career education. This financial investment won the general approval of vocational administrators throughout the country because implementation of the career education concept promised to add relevance to the general education curriculum and integrity to practical training. Career and vocational education do share some of the same objectives relating to the guidance and preparation of students and adults for work. Yet, there exist many career education objectives which do not call upon vocational education for achievement. Unless these are differentiated from vocational education objectives, their continued support through vocational education funding may jeopardize the achievement of objectives which are exclusively vocational in nature. Problems in vocational education accountability would be reduced by a clear differentiation of career and vocational goals. And only through differentiated budgets can the requirements of both areas be clearly identified so that appropriations for one area will not be expected to satisfy the requirements, and meet the objectives, of the other. Both efforts are important and the full funding of both is essential to the viability of our education system.

Recommendation: It is recommended that program plans at the state and federal level define and isolate those elements considered to fall in the realm of career education from those elements considered to be vocational in nature. Thus, program budgets can be prepared in such a manner that funding requirements for both areas do not overlap.

17. *Issue: There is a need to coordinate activities of the National Advisory Council on Vocational Education and the National Advisory Council on Career Education.*

Discussion: Since 1968, the National Advisory Council on Vocational Education has played an active and valuable role in the monitoring and evaluation of vocational education nationwide. This Council has published a series of annual and special reports that have drawn the attention of the Congress, the Executive Office, the education community and the public to the progress, the problems and the potential of vocational education. Now, with the Education Amendments of 1974, a National Advisory Council on Career Education has been established to serve career education in essentially the same way. Because career and vocational education are so closely related, the interests and responsibilities of these two advisory groups are also closely related. The need for, and value of, coordination between these two groups is obvious.

Recommendation: It is recommended that the National Advisory Council on Vocational Education and the National Advisory Council on Career Education remain separate, but that part of their memberships be composed of the same persons. It is further recommended that the Councils cooperate in initiating a joint effort aimed at clarification and differentiation of the objectives and scope of vocational education and of career education. It is further recommended that the Councils hold at least one joint meeting annually and that they issue joint reports on issues and problems appropriate to their charges.

18. *Issue: The concept of separate or combined career and vocational advisory councils at the state level should be examined.*

Discussion: State advisory councils on vocational education have been in existence for many years. With the advent of career education, many of these state councils have been given, or have assumed, responsibility for both career and vocational interests. While this combination does ensure coordination in monitoring, evaluating and supporting career and vocational programming within a state, it poses some potential problems as well.

Career education requires strong allegiances with both academic and vocational education. It requires as much cooperation and support from the community employing college graduates as is needed from employers of workers below the college graduate level. The addition of career education to the scope of responsibility of advisory councils, originally established for vocational education alone, could conceivably result in division of effort that would not serve the needs of either career or vocational education in an effective fashion.

Concern has been expressed that the close alignment of career and vocational organizations reinforces the erroneous perception of career education as an offshoot of vocational education and jeopardizes the acceptability of career education initiatives in the academic community. It is hard to know the extent to which, or even whether, career education objectives have been, or could be, compromised by too close an affiliation with vocational education.

Recommendation: It is recommended that the Congress, the U. S. Office of Education, the National Advisory Council on Vocational Education and the National Advisory Council on Career Education examine and review the efficacy of separate state advisory councils and of combined state advisory councils and that findings be considered for inclusion in the pending vocational education legislation.

19. *Issue: Inadequacy of counseling services in support of vocational and career education threatens success of both efforts.*

Discussion: In 1972, the National Advisory Council on Vocational Education devoted its entire Sixth Report to the critical need for improved counseling and guidance services in our schools. The "intolerable" situation which the Council described was characterized by pupil-counselor ratios that could not approach the threshold of adequate service; diversion of counselor time to unrelated duties in the school; college biases of parents; lack of practical knowledge of business and industry; inadequate college preparation in occupational counseling; lack of financial support for counseling at all levels; and lack of initiative on the part of the employers, labor, manpower specialists, professional associations and counselors themselves. The recommendations for change made by the Council in their report are more valid today than they were when the report was published, considering the slow progress being made to improve the situation. The emergence of career education has served to underscore the need for a reorientation of counseling toward career development and vocational guidance. Still, in the absence of needed funds, little has been accomplished.

While recognition of the shortcomings of career and vocational counseling is increasing in our school systems and communities and while many school systems and institutions are responding to the extent possible given severe resource limitations, the failure to acknowledge the importance of counseling by concentrating our resources on it will continue to compromise all other efforts of career and vocational educators across the country.

Recommendation: It is recommended that the Congress make adequate provision for career guidance and counseling in pending vocational education legislation.

20. *Issue: Long delays in federal appropriations for vocational education have resulted in administrators not knowing how much monies will be available for programs until late in the fiscal year.*

Discussion: A chronic problem confronted by administrators and planners in vocational education has been the frequent long delays before federal appropriations are made each fiscal year. As a result, administrators have no way of knowing how much money they will have to work with or when the funds will become available until late in the year. This situation is confounded by the need for advance planning and the need for schools to know how much money they will have available for operating programs. The lateness in appropriations places state and local administrators in an untenable position in that they are given inadequate lead time to plan the most cost-effective and efficient way to administer programs.

For some time, the Congress has considered forward funding to assist in alleviating this undesirable situation. Thus far, legislation has not been enacted guaranteeing that appropriations would be available early enough in the fiscal year to assure sound program planning.

Recommendation: It is recommended that the Congress include in the pending vocational education legislation provision for forward funding, that authorization levels be raised commensurate with need, and that appropriations for vocational education be made on a forward funding basis to assure wise investment of available funds.

GENERAL OBSERVATIONS

The strength of vocational education lies in its responsiveness to legislative priorities. Since the Smith-Hughes Act of 1917, Congress has progressively revitalized the mission of the vocational education program. Acting in response to increasingly complex legislative mandates, vocational education has achieved remarkable breadth in terms of the scope of its occupational programs and supportive services, its definition and purpose.

As the only viable alternative to academic instruction to have emerged within the educational system, vocational education, because of its commitment to the values of practical learning, has had to become increasingly adaptable to socio-economic changes. Historically, changes in vocational education goals and practices have coincided with the major cultural transformations of the past 50 years. In attempting to meet immediate, often emergency, needs (as in World War II), adaptability has become the hallmark of the vocational education system. But flexibility is both the source of its strength and the cause of its weaknesses; the extent to which vocational education responds to local or national socio-economic trends has become a basic measure of its success or failure.

The growth and improved quality of the program is not so much the result of systematic research, planning and evaluation, as the product of professionals intuiting need. How else to explain its evolution, from a rustic agrarian orientation to one attempting to meet the demands of an urbanized technological society, without benefit of a reliable national data base, well-established methods of appraisal and without far-reaching policy directive?

The dimensions of the vocational education program have been extended with each piece of federal legislation, impacting to some extent on all age and ethnic groups and on varied sectors of the economy. Still, the goals, scope and quality of vocational education vary from state to state, where the extent of commitment, from the state superintendent of public instruction to the local administrator, is the genuine key to success or failure, notwithstanding other factors such as inadequate federal funding, the low national profile of vocational education and the establishment of goals difficult to achieve through one structure. In the last few years, the merits of vocational training have won increasing respect, even in academic circles. Yet, vocational education seems a poor stepchild in comparison to both general education and the highly visible, costly, all-federally funded manpower training programs. And vocational education's precocious and well-named offspring,

career education, promises to eclipse its funding parent in the public eye. The apologists for the cause of vocational education who claim we can do the whole job and better must admit that, even though all the hard evidence is not yet in, the vocational education system has not yet fully lived up to the Congressional mandates of 1963 and 1968.

The current legislation serves as a conscience, not as a blueprint. Attention to fine detail--the operational and administrative structures, the delivery system and fiscal responsibility necessary to accomplish the goals set forth--is missing. Moreover, vocational education is expected to fulfill two generally isolated national priorities, education and manpower development, without genuine linkages to either. In a sense, vocational educators must wear two hats. Little wonder that the public image and identity of vocational education are hazy!

Oddly enough, vocational education's current direction draws strength from its dual role as a servant to the ideals of education and as an instrument of manpower policy. Vocational education has been criticized by academics for neglecting the intellectual and psycho-social needs of its students and by manpowerists for failing to meet socio-economic problems systematically. Now that vocational education has extended its program in both directions perhaps it can, as it shows signs of doing, trade on its unique, undeclared role, lending pragmatism to academia and humanism and depth to manpower development.

Nevertheless, the ambiguous stance of vocational education is critical. The fact that we as vocational educators have failed to present our case before the public in an aggressive and positive way suggests that we ourselves are ambivalent about our mission. Is continued growth, i.e., reaching 80 percent of the population, a realistic goal? Do we want to, and can we, deal singlehandedly with the disadvantaged in the schools? Will we confront the discrepancies in the social fabric and in the structure of the work force that limit the ultimate success of our students? Will vocational education acknowledge an ongoing responsibility to its students by championing the rights of workers to receive retraining, upgrading and continuing opportunities for human enrichment? That is, will our commitment to educating and training people override a laissez-faire attitude toward the economic system?

For too long, vocational education has been content to perpetuate social stratification, of which it is a victim; content to respond to sudden social crises rather than effect meaningful change or tackle issues which are considered too "political"--job creation, improvement of the work place, discriminatory hiring practices and unsatisfactory and unhealthy working conditions. This reluctance to play an advocacy role in socio-political issues is, of course, common among all educators who fail to recognize their field as an increasingly significant political arena.

Only tentatively empowered by law, vocational education lacks a comprehensive vision, translated into far-reaching policy, which comes to terms with the full social-economic-political role of vocational education in the nation and its relationship to other public and private institutions responsible for education and training.

The traumas of the past decade have given rise to an apocalyptic mentality and a new polarity that redefines the classic struggles between generations, social classes and political ideology. Today, the lines are drawn by differences in psychological outlook, in how we view the future. How we view the future, of course, corresponds to the way we interpret the present. Some are blinded by our current situation, while others are inspired to seek new approaches to solving present dilemmas.

Vocational educators who are trying to plan for the future have only the broadest outlines to go by--economic and social predictions which are subject to continual reinterpretation. There are unmistakable signs, however. Technological expansion and its attendant symptoms will require comprehensive program action, a host of innovative approaches to education and training and increased job development activities.

One thing is certain. We cannot wait until changes occur and then respond in a hit-or-miss fashion. We need not only to anticipate, but also to advocate a shape for the future. The issues and recommendations contained in this chapter are designed to serve as a framework for future policy in vocational education.

APPENDIX

TREATMENT OF THE DATA

The preparation of this report required a number of approaches to information collection:

- Congressional expectations for the 1968 Amendments were assembled based upon a review and analysis of Committee Reports of both the House and the Senate; Congressional debate; Congressional notes and working papers; testimony given by vocational educators and others in Congressional hearings held prior to the passage of the legislation; texts of relevant speeches given by Senators and Representatives; other publications treating the implications of the legislation; observations of key staff members of the Congressional Committees; and observations of key vocational education administrators.

- Extent of realization of Congressional expectations during the 1971-1974 period was examined through analysis of the Project Baseline Common Data Base, Northern Arizona University, and other reports concerned with vocational education. Interviews with knowledgeable vocational education and manpower administrators at all levels, and with researchers and other professionals associated with vocational education during this period, were relied upon to obtain information in the many areas in which qualitative data were lacking. The author's own experience and observations during this period were used to supplement all of the information assembled.

- The social, economic, and political climate in which vocational education operated following the 1968 Amendments was described by calling upon a variety of references dealing with this period, and by obtaining the views of knowledgeable social scientists familiar with vocational education and manpower. Government publications concerned with trends affecting our labor market, education and training system, and economy were relied upon for data describing the 1971-1974 period, and for data on which to base projections of future conditions affecting vocational education. Publications of scholars concerned with social aspects of post-industrialism, limitations on growth, and related subjects were drawn upon by social science consultants to this study to set the stage for examination of potential future roles of vocational education.

- Issues calling for policy actions to guide vocational education nationally were drawn from a review of all of the foregoing information assembled. The advice and counsel of a number of knowledgeable individuals associated with vocational education and manpower was relied upon to verify the issues identified, and the appropriateness of the recommendations made.

The Project Baseline Common Data Base covering the years 1971 through 1974 was the primary source of vocational education data used in the analyses performed in preparing this report. A variety of analyses were applied to the Project Baseline data. While the results of many of these are contained in the text of the report, information on others (correlations in particular) has been reserved for the Appendix to preserve the continuity of the report narrative to the extent possible.

- In the analyses, eighty-two variables were used, singly and in combinations, to determine strength of relationships. Trends are identifiable, but no conclusions or future projections can be drawn from them.

- Using enrollments as dependent variables and fiscal years as independent variables, correlation coefficients showed that, although enrollments generally increased over the four-year period, only health and gainful home economics enrollments exceeded the growth expectations for these years. In considering the number of students enrolled in programs as proportions of population, it was found that total vocational enrollments, total secondary enrollments, and total postsecondary enrollments grew more rapidly than might have been expected. These correlation coefficients were highly significant, with F values of 15.53, 9.34 and 7.88, respectively. (F - 6.76 indicates .01 level of confidence.)

- Table 15 on the following page summarizes growth in enrollments, completions, and expenditures between 1971 and 1974. This table notes the percentage growth experienced in the areas which exceeded expectations.

- Federal expenditures were used with state expenditures as independent variables for correlation with enrollments, completions and placements. Expenditures are shown in Table 2, Chapter II. Correlations between increases in federal and state expenditures and increased enrollments were significantly high in the case of total vocational education enrollment, as well as secondary, postsecondary and adult enrollment. These correlations ranged from 0.68 to 0.87.

- Between federal and state/local funding and program completions, high positive correlations were found for total vocational education (0.84), secondary (0.89), and postsecondary (0.64). When placement was added to program completions as an independent variable, the correlations ranged slightly higher (from 0.64 to 0.91). For adults, however, correlation between funding and program completion was lower (0.41).

Table 15

Summary of Vocational Education Enrollments, Completions and Expenditures, and Growth in These Categories 1971-1974

Item	1971	1974	Percentage Growth
Enrollment			
Total	10,485,233	13,512,060	28.87%
Secondary	6,487,446	8,387,026	29,28%
Postsecondary	1,116,004	1,591,400	42.59%
Adult	2,881,735	3,533,634	22.62%
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Agriculture	844,505	975,623	15.53%
Distributive Education	578,066	833,432	44.18%
Health Occupations	269,495	505,897	87.72%*
Consumer/Homemaking	2,929,641	3,202,761	9.32%
Occupational Home Economics	196,695	495,978	152.16%*
Office Occupations	2,224,773	2,757,640	23.95%
Technical Education	313,002	393,185	25.62%
Trade and Industrial	2,073,192	2,821,170	36.08%
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Vocational/100	50.19	62.97	25.46%*
Secondary/100 Ages 15-19	31.90	40.14	25.83%*
Postsecondary/100 Ages 20-24	6.46	8.98	39.01%*
Adult/100 Ages 25-64	3.06	3.66	19.61%
Completions			
Secondary	1,003,491	1,287,874	28.34%
Postsecondary	324,531	527,724	62.61%
Adult (Preparatory)	165,225	295,434	78.81%
Expenditures (Dollars)			
Total	$2,399,025,018	$3,547,889,028	47.89%
Federal	393,926,863	551,442,453	39.99%
State/Local	2,005,098,155	2,996,446,575	49.44%
Per Student			
Secondary	238	254	6.68%
Postsecondary	554	604	9.05%
Adult	74	70	-5.43%

*Significant percentage growth in enrollments

Source: Project Baseline, Northern Arizona University.

- The number of adults completing programs and the number employed in areas related to training appear not to be dependent upon the number of dollars spent per student (with correlations of 0.41 and 0.39 respectively). In addition, very low correlations were found between secondary and postsecondary completions and the funding per student in these programs. Figure 1, Chapter II, shows that in secondary programs, the highest percentage of completions occurred at the highest funding level (a high positive correlation). The second highest completions, however, came with the lowest expenditures. This correlation is high, but negative. This accounts for the overall low positive correlation between funding and secondary completions. Adult completions, shown in Figure 3, Chapter II, show a higher negative relationship.

- Figure 2, Chapter II, shows that although there is a positive correlation between completions and expenditures per postsecondary student, and although the highest completions occurred in the two years of highest expenditure, there was one year (1971) when considerably less money spent per student resulted in a very high placement percentage.

- Multiple and partial correlations were computed to identify factors which had the greatest bearing on the annual figures and general trends. Computations were run for combinations of dependent and independent variables. State population size was the major factor affecting enrollment in distributive education, health, home economics, gainful home economics, office, technical, and trade and industrial curricula. Federal and state expenditures made small additional contributions, but they were not statistically significant. This was also true in the case of disadvantaged and handicapped student enrollments.

- Additional teachers made only a slight (non-significant) contribution to the number of students enrolled in each of the subject areas. Enrollments in health occupations did show a slightly higher correlation when additional teachers were combined with state population as a variable than when state population was considered alone.

- There was little relationship between secondary, postsecondary and adult enrollments per 100 population, and fiscal years, total state population, or state population in these three age categories. State population did, however, have the greatest effect upon these enrollments. (Correlation ranged from 0.25 to 0.37).

SELECTED BIBLIOGRAPHY

Allen, Mary P. "Vast New Resources for Vocational Technical Education," American Vocational Journal, November, 1968.

Bell, Daniel. The Coming of the Post-Industrial Society. New York: Basic Books, 1973.

Berg, Ivar. Education and Jobs: The Great Training Robbery. New York: Praeger Publishers, 1970.

Brandon, George L. An Appraisal of the Manpower Training Programs Established by Congress in the 1960's. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, August, 1974.

Bureau of Labor Statistics. Employment and Earnings, States and Areas. Bulletin No. 1370-7. Washington: U. S. Department of Labor, 1970.

Bureau of Labor Statistics. The Structure of the U. S. Economy in 1980 and 1985. Bulletin No. 1831. Washington: U. S. Department of Labor, 1975.

Bureau of Labor Statistics. Occupational Outlook Handbook, 1974-1975. Washington: U. S. Department of Labor, 1975.

Congressional Record. Debate on H.R. 18366. 90th Cong., July 15, 1968.

Division of Vocational and Technical Education. Trends in Vocational Education, Fiscal Year 1973. Washington: Office of Education, U. S. Department of Health, Education, and Welfare, 1974.

Division of Vocational and Technical Education. Trends in Vocational Education, Fiscal Year 1974. Washington: Office of Education, U. S. Department of Health, Education, and Welfare, 1975.

Doeringer, Peter B. and Michael J. Piore. Internal Labor Markets and Manpower Analysis. Lexington, Mass.: D[illegible]. Heath and Company, 1971.

Economic Report of the President. Washington: U. S. Government Printing Office, 1974-1975.

Emery, F. E. and E. L. Trist. Towards a Social Ecology: Contextual Appreciation of the Future in the Present. London: Plenum Press, 1973.

Evans, R., G. Mangum and O. Pragan. Education for Employment: The Background and Potential of the 1968 Vocational Education Amendments. Policy Papers in Human Resources and Industrial Relations, No. 14. Ann Arbor: The Institute of Labor and Industrial Relations, University of Michigan, Wayne State University, 1969.

Freeman, Richard B. "Youth Employment Opportunities: Changes in the Relative Position of College and High School Graduates," Labor Market Information for Youths. ed. Seymour L. Wolfbein. Philadelphia: School of Business Administration, Temple University, 1975.

Hall, Richard H. Occupations and the Social Structure. 2nd ed. Englewood Cliffs, N. J.: Prentice-Hall, 1975.

Holland, Richard A. "An Indexing of Metropolitan Post-Industrialism." Unpublished research paper. University of Missouri-St. Louis, 1975.

Illich, Ivan. Tools for Conviviality. New York: Harper and Row, 1973.

Kay, Evelyn A., Barbara H. Kemp and Frances G. Saunders. Guidelines for Identifying, Classifying, and Serving the Disadvantaged and Handicapped Under the Vocational Education Amendments of 1968. DHEW Publication No. OE 73 11700. Washington: U. S. Government Printing Office, 1973.

Law, Gordon F. Impact of Vocational Education and Manpower Training on the Labor Market. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, August, 1974.

Lecht, Leonard A. Evolutionary Vocational Education--Policies and Plans for the 1970's. New York: Praeger Publishers, 1974.

Lee, Arthur M. A Data Base for Vocational Education and Manpower Training. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, October, 1974.

Lee, Arthur M. Learning a Living Across the Nation. Vol. I-IV. Project Baseline. Flagstaff: Northern Arizona University, 1975.

Levitan, Sar A. and William B. Johnston. Work Is Here To Stay, Alas. Salt Lake City: Olympus Publishing Co., 1973.

Levitan, Sar A., Garth L. Mangum and Ray Marshall. Human Resources and Labor Markets: Labor and Manpower in the American Economy. New York: Harper and Row, 1972.

Lockette, Rutherford E. and Lawrence F. Davenport. Review and Synthesis of Research on Vocational Education for the Urban Disadvantaged. ERIC Clearinghouse on Vocational and Technical Information Series No. 50 VT 013 761. Columbus, Ohio: Center for Vocational and Technical Education, Ohio State University.

Mangum, Garth and David Snedeker. Manpower Planning for Local Labor Markets. Salt Lake City: Olympus Publishing Co., 1974.

Manpower Report of the President. Including Reports by the U. S. Department of Labor and the U. S. Department of Health, Education, and Welfare. Washington: U. S. Government Printing Office, 1973-1975.

Miller, Ann and Susan Klep. Occupations of the Labor Force According to the Dictionary of Occupational Titles. Statistical Evaluation Report No. 9 for the Statistical, Policy, and Management Information System. Washington: U. S. Office of Management and Budget, Executive Office of the President, February, 1971.

Miller, Robert. Impact of Vocational Education Research at the Federal and State Levels. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, October, 1974.

Morse, Senator Wayne. "Education for Jobs in a Technological Society." American Vocational Association, Dallas, Texas, December 10, 1968.

National Commission on Productivity and Work Quality. Fourth Annual Report. Washington: U. S. Government Printing Office, March, 1975.

"The No-Growth Society," Daedelus, Fall, 1973.

Oates, James F., Jr. Jobs for Veterans, A Report to the President of the United States. Arlington, Va.: National Committee, Jobs for Veterans, March, 1974.

Panel on Youth of President's Science Advisory Committee. Youth: Transition to Adulthood. Prepared by James S. Coleman. Washington: U. S. Government Printing Office, 1974.

Proceedings of Conferences on the Comprehensive Employment Training Act. Prepared by James E. Conner. Washington: National Advisory Council on Vocational Education, May, 1975.

Pucinski, Representative Roman C. "Vocational Education - Keystone to Solving Unrest in America's Cities." Illinois Vocational Association, Chicago, Illinois, March 7, 1968.

Pucinski, Roman C. and Sharlene Pearlman Hirsch (eds.). The Courage to Change: New Directions for Career Education. Englewood Cliffs, N. J.: Prentice-Hall, 1971.

Reich, Charles. The Greening of America. New York: Bantam Books, 1971. Published by arrangement with Random House.

Siegel, Irving H. (ed.). Manpower Tomorrow: Prospects and Priorities. New York: Augustus M. Kelley, 1967.

Steele, Marilyn. Women in Vocational Education. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, October, 1974.

Swanson, Gordon I. The Preparation of Teachers for Vocational Education. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, September, 1974.

U. S. Comptroller General of the General Accounting Office. What is the Role of Federal Assistance for Vocational Education? A Report to Congress. Washington: Office of Education, U. S. Department of Health, Education, and Welfare, 1974.

U. S. Congress, House of Representatives, Committee on Education and Labor. Vocational Education Amendments of 1968. Report No. 1547. July 8, 1968.

U. S. Congress, House of Representatives, General Subcommittee on Education of the Committee on Education and Labor. Hearings on H.R. 16460. 90th Cong., 2nd Sess., 1974. Part I.

U. S. Congress, House of Representatives, General Subcommittee on Education of the Committee on Education and Labor. Hearings, Partnership for Learning and Earning Act of 1968. 90th Cong., 2nd Sess., 1974. H.R. 15066.

U. S. Congress, Senate, Committee on Labor and Public Welfare. Vocational Education Amendments of 1968. Report No. 1386. 1968.

U. S. Congress, Senate, Subcommittee on Education of the Committee on Labor and Public Welfare. Notes and Working Papers Concerning the Administration of Programs Authorized under Vocational Education Act of 1963, As Amended. March, 1968.

U. S. Department of Health, Education, and Welfare. An Introduction to Career Education, A Policy Paper of the U. S. Office of Education. DHEW Publication No. OE 75-00504. Washington: U. S. Government Printing Office.

U. S. Office of Education. Education for a Changing World of Work. Report of the Panel of Consultants on Vocational Education. Washington: U. S. Government Printing Office, 1963.

Wall, James E. Impact of Vocational Education and Manpower Training on Target Populations. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, July, 1974.

Winkler, Karen J. "Mustering Out the G. I. Bill," The Chronicle of Higher Education, XI, No. 5, October 14, 1975.

Women at Work. Report on a Series of Regional and National Seminar Workshops. Washington: Technical Education Research Centers, November, 1974.

Worthington, Robert M. Career Education in the United States Today. Project Baseline Supplemental Report. Flagstaff: Northern Arizona University, June, 1974.

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